UNITED STATES DISTRICT COURT WESTERN DISTRICT OF WISCONSIN

WISCONSIN INTERSCHOLASTIC ATHLETIC ASSOCIATION, AMERICAN-HIFI, INC.

Plaintiffs,

Case No. 09-cy-0155

v.

GANNETT CO., INC., and WISCONSIN NEWSPAPER ASSOCIATION, INC.,

Defendants.

AFFIDAVIT OF TIM EICHORST

- I, Tim Eichorst, hereby declare,
- 1. I have personal knowledge of the facts stated herein and, if called upon to do so, could and would testify competently thereto.
- 2. I am the majority shareholder of American Hi-Fi, Inc., d/b/a When We Were Young Productions ("WWWY").
- 3. WWWY was incorporated in 2002.
- 4. WWWY is a video production company located in Waunakee, Wisconsin.
- 5. My background is in technology. In about 2000, I started filming high school football games as a hobby. Based on my technology background, I taught myself how to create and edit the films. The more I did it, the more proficient I became at it.
- 6. I researched high school sports, and realized that I could connect the growing technology to the industry and cater to the growing interest in high school sports.
- 7. I decided to start my own business focused on high school sports. Thus, I started WWWY as a means to formally pursue a business involving what I had been doing as a hobby.

- 8. My initial idea was to make highlight videos for a high school sports team. I did that for a year, and lost hundreds of thousands of dollars. I soon realized that I could not charge enough for the sale of the DVDs to cover the cost of production. I began to think about a larger platform for producing and distributing high school athletic events.
- 9. Through my involvement with high school sports, I knew of Doug Chickering, the Executive Director of the Wisconsin Interscholastic Athletic Association ("WIAA"). I looked at the distribution of WIAA tournaments and knew that distribution was very limited. I was interested in an introduction to Mr. Chickering, so I contacted Pat Richter, the Badger Athletic Director, and asked him to introduce me to Mr. Chickering.
- 10. I first met Mr. Chickering at a state football tournament in the fall of 2003. We briefly discussed producing and distributing WIAA tournaments. We agreed to meet again in December of that year to discuss these issues in more detail.
- 11. In December of 2003, I met with Mr. Chickering and Todd Clark, the Director of Communications for the WIAA. I shared with them my vision and goals for high school sports, which was to produce and mass distribute high school sporting events. We had theoretical discussions at that point.
- 12. These discussions led to the signing of a Letter of Intent in May 2004 between the WIAA and WWWY to pursue a formal contract granting WIAA programming rights to WWWY. The Letter of Intent described conceptually how I expected the partnership to work, with the understanding that many details would need to be worked out and discussed. The Letter of Intent described the mutual interest between the WIAA and WWWY to work together under a long-term contract to produce and distribute WIAA sports events. The general understanding was that WWWY would have the exclusive right to produce and distribute all WIAA playoff and

tournament events, except those under a pre-existing contract, for live or tape delayed programming. WWWY would pay the WIAA a fee, to be determined, for those rights.

Distribution formats would include broadband, cable, network and physical media. Attached hereto and incorporated herein by reference as Exhibit A is the Letter of Intent.

- 13. After the Letter of Intent, I worked on researching and proposing a business plan for the partnership between WWWY and the WIAA for production and distribution of WIAA sports events. I researched technology, evaluated requirements for capital, equipment, facilities, and personnel, and prepared an estimate of costs and revenues.
- 14. Based on this work, in about early 2005, I made a formal proposal to the WIAA for the production and distribution of WIAA athletic events. Attached hereto and incorporated herein by reference as Exhibit B is the PowerPoint presentation that I prepared and gave to the WIAA.
- 15. The proposal was for WWWY to deliver broadcast quality video production of WIAA events, to distribute these products through all physical, electronic, and broadcast media, and to establish the WIAA as a progressive thought leader. To do that, my plan was to organize a management structure in the field to tape the events. I described the specific field equipment I would use, including the number and types of Camcorders, computers, and associated accessories, and provided an estimate of WWWY's cost for this field equipment. To produce the films, I would construct or acquire a state of the art production facility, acquire hardware and software, and provide all technical staffing. I budgeted three million dollars for the acquisition of corporate equipment for the production facility. In addition, I would work on marketing efforts in conjunction with the WIAA, and would develop and launch a web site for the distribution of WIAA events.

- 16. I had thought a lot about the economics of this venture, and I explained in the proposal how the economics would work. The WIAA and its members would have no financial commitment to the venture, but would have the opportunity to earn royalties based on distribution revenues. WWWY would assume the financial responsibility for the venture. WWWY expected to break even on (and not profit from) "hard media" items, such as the game films, highlight videos, documentaries and still photography, which would be priced in a manner to be affordable to the consumer. WWWY expected to make profits on "broadcast media," including such things as real-time game feed, broadcast TV highlight feeds, and studio production of weekly TV shows.
- 17. Based on this proposal, WWWY and the WIAA entered into a Production Rights And Distribution Agreement ("the Agreement"). Attached hereto and incorporated herein by reference as Exhibit C is the Agreement. The Agreement was fully executed in May of 2005, and lasts for a term of ten (10) years.
- 18. The Agreement gives WWWY the exclusive right to produce, sell, and distribute all WIAA tournament series and championship events for all WIAA sports, except those under existing contract.
- 19. In addition, WWWY was granted the rights to market the partnership with the WIAA; to use the WIAA trademark, logo and name for marketing purposes; and to establish an online website for marketing and distribution.
- 20. In the Spring of 2007, we started live streaming WIAA athletic events on a web portal, wiaa.tv. Todd Clark and I had talked about streaming for at least two years before we got it up and running. I thought it was a key part of the strategy for the branding and marketing of the WIAA. I believe the destination point for WIAA events needed to branded as part of the WIAA,

and that the market for that product should attach itself to that brand. Thus, we called the web portal "wiaa.tv." The WIAA has control over what goes on and around the website, to ensure it supports and is consistent with the mission and purpose of the WIAA.

- 21. Our website, wiaa.tv, is a video-only site. There is limited advertising on wiaa.tv. WWWY does not make any money from the streaming of WIAA events on wiaa.tv. The expenses that WWWY incurs to operate wiaa.tv are offset by WWWY's distribution contracts.
- 22. We allow member schools to use wiaa.tv to self-stream their in-season games at no cost.
- 23. The Agreement provides for production goals, produced either by WWWY directly or through an affiliate, of 100% of state tournaments, 50% of sectional events, and 25% of regional events. Before WWWY, there was no widespread distribution of sectional and regional WIAA events.
- 24. The Agreement provides for a multi-platform distribution strategy. WWWY agrees to distribute directly, or contract with a distribution agent for WWWY produced events, for live production, live or delayed streaming, video on demand, tape delayed production, and physical media. Examples of distribution platforms include internet based video on demand (web streaming), DSL/Broadband based video on demand, cable based video on demand, satellite based video on demand, cable (live or delayed), satellite (live or delayed), network (live or delayed), and other physical media.
- 25. The Agreement grants WWWY the right to authorize affiliate production partners for the production of WIAA events. In exchange, WWWY agrees to actively seek out and affiliate all qualified production resources.
- 26. As part of the affiliate program, I organized a meeting with the executive director of the Wisconsin Association of PEG (Public, Educational and Government) Access Channels

("WAPC"), to advise the WAPC of our affiliate production program. The program would allow the PEG channels to continue to do what they were doing, which was filming WIAA events and carrying them on their channels, on a fee basis that was less than what the WIAA had been charging. Before the affiliate program, the WIAA had charged \$20 per event for local PEG channels to film and broadcast a WIAA event; under WWWY's affiliate program, WWWY charges PEG channels \$50 per year. As part of that fee, WWWY takes care of all of the organizational requirements for PEG access, such as making all necessary arrangements with the local school to get the television station set up for production. WWWY monitors production and distribution for the WIAA, which did not have the resources for such monitoring. Once the PEG station films the event, they provide a master copy of the film to WWWY, which sells the DVDs online, at WWWY's administrative expense. The PEG station gets royalties from the sale. No PEG station has complained about or refused to provide the master copy of the film to WWWY.

- 27. In the fall of 2008 alone, WWWY had 59 affiliates through its affiliate program. WWWY has not turned down any request for an affiliate relationship.
- 28. WWWY pays the WIAA a fee for the rights granted in the Agreement based upon a formula. WWWY currently pays the WIAA an annual fee of \$60,000. The Agreement grants WWWY the right to enforce any violations of the rights in the Agreement.
- 29. As part of the Agreement, WWWY agreed to provide video production resources to the WIAA at no cost to the WIAA. WWWY provides the following video production services to the WIAA at no cost:
 - a. WWWY films, edits, and makes available on wiaa.tv, the WIAA's sports meetings, such as the WIAA's seasonal rule interpretation meetings, so that

- members and the public can access such meetings without attending in person, saving time and expense, and increasing participation.
- b. WWWY films, and makes available on wiaa.tv live, the WIAA's Annual Meeting, so that the entire membership and the public can hear and watch the annual report from the executive director and discussions regarding key changes without attending in person, saving time and expense, and increasing participation.
- c. WWWY produces an annual video that compiles highlights of all state WIAA tournaments throughout the year.
- d. WWWY films, edits, and makes available on wiaa.tv, the annual scholar athlete award ceremony held in the spring in Wausau, Wisconsin. WWWY gives the award winners a DVD copy of the event.
- e. WWWY films, edits, and makes available on wiaa.tv, the annual WASC Spirit of Excellence award ceremony. WWWY films interviews of the presenters which it includes in the final production of the award ceremony tape. WWWY helps promote the award ceremony at tournaments by showing the tape on the video board at various venues.
- f. At venues where the WIAA hosts championship tournaments, WWWY provides live game feed to the video board. Normally, the venue itself charges a large fee to provide live game feed to the video board. Instead of hiring someone from the venue to provide feed to the video board, WWWY has two to three extra staff members present at the event solely to work on the video board feed, all at no cost to the WIAA.

- g. WWWY produces highlight segments from other WIAA sponsored sectionals or tournaments, and does recaps with video from other WIAA state championship tournaments that it presents on the video board at championship tournaments.
- h. WWWY films starting line-up introduction videos and/or team videos that it shows on the video board at all tournaments that have video board capability.
- WWWY creates public service announcements that the WIAA and member schools can display on video boards at events and that are displayed on wiaa.tv.
- 30. As part of the business relationship with the WIAA, I have regular interaction with the staff of the WIAA to discuss the industry, the market, and technology. The high school sports market is the primary focus of my business.
- 31. At the time WWWY was negotiating the Letter of Intent and Agreement with the WIAA, Fox Sports Wisconsin ("Fox") saw WWWY's product for individual game highlights and, because of its high production quality, was interested in contracting with WWWY for distribution of WIAA events. Thus, I started discussing with Fox an agreement where Fox would be a distribution agent for WWWY produced WIAA events. Fox required WWWY to provide it with exclusive content for distribution as part of any agreement. Thus, Fox waited for WWWY to make a formal secondary distribution proposal once WWWY had obtained exclusive rights from the WIAA.
- 32. Thus, contemporaneously with the WIAA Agreement, I proposed a distribution agreement with Fox. Once the WIAA signed the Agreement, the WWWY/Fox contract was finalized for Fox's distribution of WWWY produced WIAA events. WWWY's contract with Fox expires in 2011. As part of the Agreement, events from all WIAA tournaments are distributed for delayed TV through Fox.

- 33. I have invested millions of dollars in building WWWY to be a high quality production company. WWWY has broadcast quality technical equipment and several state of the art mobile television trucks for broadcasting.
- 34. WWWY has 10 employees who work full time as producers, directors and editors on producing WIAA events. We also hire from 20 to 30 part-time, seasonal employees who work as camera operators and graphics operators for filming in the field. I also hire two to three part-time employees to operate the feed to the video board, at no cost to the WIAA.
- 35. To produce a WIAA state championship event, WWWY sends multiple cameras manned with camera operators to the tournament. The event is live streamed from the venue on wiaa.tv. Our graphics operators do the live streaming. After the event, the film is brought back to WWWY's studio, where we add post-production resources to the film. We create a master tape, which we ship to Fox for delayed broadcast.
- 36. WWWY allows anyone else to produce and distribute a "declined event" for a fee ultimately determined by the WIAA. A "declined event" is a WIAA post-season event to which WWWY holds the rights but has declined production. WWWY has never rejected a request to produce a declined event.
- 37. Todd Clark and I worked together to determine the fee for affiliate production of a declined event. I work with seven other state high school athletic associations for producing and distributing their high school athletic events, so I am familiar with how different states address the fee structure. In my discussions with Mr. Clark, he demonstrated knowledge of other state's high school athletic association's policies and practices with respect to the production and distribution of games.

- 38. The WIAA decided on a fee structure that requires a person or entity to pay \$250 to live internet stream a game produced with one camera, and \$1,250 to live internet stream a game produced with multiple cameras.
- 39. This fee was determined based on a number of factors. First, it was consistent with or lower than the fees charged by other state athletic associations. Second, we looked at the value of the production and the resources devoted to the production: a one-camera production with no announcer is much different then a multi-camera production, which usually involves a mobile television broadcast truck and announcer, and requires more resources at the venue itself (there is a cost to the host venue to have to accommodate the extra individuals and to provide power for the production truck which is much different than for an individual cameraperson). We also considered the medium, whether internet or TV, and how wide the distribution would be, whether local or world-wide. We determined that the multi-camera production lends itself to a wide internet distribution platform that people are able to see world-wide, whereas a single camera local PEG station production is shown only through the television medium for distribution to the local community.
- 40. I prepared an analysis for the WIAA of the annual cost of production of WIAA events. I determined that annually, it costs WWWY \$508,806 to fulfill WWWY's contractual commitments to the WIAA, which includes the following categories: WIAA state tournament event production costs in the field; WIAA state tournament event post-field production costs; WIAA channel production; WIAA state tournament venue production; wiaa.tv hosting and management; wiaa.tv live streaming; WIAA sports meeting production; and production of other WIAA meetings.

- 41. I could not operate WWWY at a profit without the exclusive contract with the WIAA. There are no revenues from internet streaming, and WWWY expends considerable amounts providing the extra production services to the WIAA noted above. WWWY's revenues come from distribution and advertising. WWWY's distribution partners, such as Fox, and its television advertisers require exclusive content.
- 42. In the 2008-2009 sports season, there were 105 WIAA state tournament events, including quarterfinals, semi-finals, and finals. Of those 105, WWWY produced and distributed: 76 events through FS Wisconsin (Fox); 76 events through Fox College Sports; 82 events through wiaa.tv live stream; 182 events (some events have multiple copies) through wiaa.tv archive stream; and 182 events through DVDs.
- 43. When we decide on what event to produce, we always protect the highest level WIAA tournament. The highest level WIAA event will take priority over a lower level event. For example, even if tennis has a smaller market, the tennis finals would take precedence over a sectional event of a more popular sport, like basketball. We commit as much resources to the smaller events as to the larger events.
- 44. It is my understanding that certain newspapers either streamed or attempted to stream WIAA events in October and November of 2008. These newspapers included *The Post-Crescent*, which streamed four WIAA events on its website in October and November of 2008. These internet streams were made without the consent of WWWY, which was not contacted by *The Post-Crescent* for permission to stream. In November of 2008, I contacted *The Post-Crescent* and requested that they remove the unauthorized games from their website, pay the associated rights fee, and provide WWWY with the DVD of the game. The newspaper refused and has not paid the rights fee or provided a DVD to WWWY.

- 45. It is my understanding that Gannett alleges its newspapers were not permitted to stream four WIAA football events in November 2008. At no time did Gannett contact WWWY to request permission to stream these events.
- 46. I declare under penalty of perjury, under the laws of the United States, that the foregoing is true and correct to the best of my knowledge.

Dated this 15th day of January, 2010.

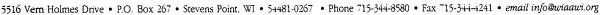
Timothy Eichorst

Subscribed and sworn before me this 15th day of January, 2010.

Brenda L. Horn, Notary Public Notary Expires: May 19, 2013

EXHIBIT A

Wisconsin Interscholastic Athletic Association





May 27, 2004

Tim Eichorst, President American-HiFi, Inc. 313 W. Beltline Hwy Suite #31 Madison, WI 53713

Dear Tim,

Enclosed is the signed Letter of Intent indicating our interest in pursuing a formal contract granting WIAA programming rights to American-HiFi, Inc.

Todd Clark has advised you the reference to "exclusive rights" in the General Terms of Understanding will need further consideration and clarification. We have similar language as well as a "right of first refusal" clause in our existing basketball/hockey agreement with QNI.

I look forward to hearing from you.

Sincerely,

Douglas E. Chickering Executive Director

Enclosure

cc Todd Clark

AMERICAN-HIFI, INC.

May 21, 2004

Mr. Doug Chickering
Executive Director
WIAA
5516 Vern Holmes Drive
Stevens Point, WI 54481

LETTER OF INTENT

Dear Mr. Chickering,

This Letter of Intent in being written to convey our mutual interest in working together, under a longer-term contract, to produce and distribute WIAA sports programming. This Letter of Intent is not a formal contract or does not infer any contractual obligations by either party.

General Terms of Understanding

- American-HiFi/When We Were Young Productions would reserve the exclusive rights to produce and distribute all WIAA playoff and tournament events, with the exception of any existing state tournament events currently under contract with the WIAA, as of the date of this letter.
- American-HiFi/When We Were Young Productions will agree to pay the WIAA a mutually agreeable fee for these rights.
- Specific events and tournaments may be produced for live or tape delayed programming. In addition, distribution formats may include any or all of the following formats:
 - o Broadband
 - o Cable
 - o Network
 - Physical Media
- The WIAA will agree to assist and participate in efforts to negotiate a content rights contract covering regular season events.
- The content of this Letter of Intent shall be confidential to both parties unless otherwise agreed upon. However, American-HiFi/When We Were Young Productions does reserve the right to share this document with any potential distribution partners we enter into negotiations with.

Doug, I am very excited about the opportunities we discussed this past Monday. I share your passion for high school athletics and the positive messages they deliver. Bringing complete WIAA sports programming to the masses will further enhance this and create additional benefits for all. Clearly there are many details not in this Letter of Intent that would need to be outlined. However, I feel the basic intent is covered.

Please signify your acceptance of this Letter of Intent by signing below. Once agreed, it is our intent to begin formulating formal production and distribution agreements, after which we would formally propose a contract to the WIAA.

Acknowledged and agreed:

Tim Eichorst

President American-HiFi/

When We Were Young Productions

Doug Chickering
Executive Director
WIAA

Mckury Date: 5-27-04

EXHIBIT B

Background

- Founded August 2001 by Tim Eichorst
- Beta tested strategy and products with two designated football teams in Fall 2001
- Extensive in field market research and feedback from administrators, coaches, players, and parents
- Currently working with four teams this Winter
- Began recruitment of additional partners
- Dick Haffele
- Christian Lamb
- o Mike Young

Agenda

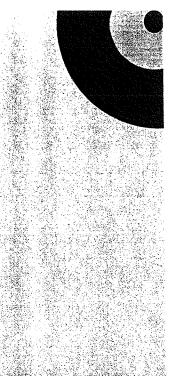
- Background
 Goals
 Plan
 Product Review
 Equipment
 Economics
 Product Demonstration
 Next Steps

Goals

- To deliver broadcast quality video production of all varsity level WIAA sanctioned events for all member schools starting in the Fall of 2002
- To provide professional production education to participating students
- To distribute these products through all means of hard media and broadcast media
- To further establish the WIAA nationally as a progressive thought leader

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- Build management organization to mirror the WIAA
 - Begin recruitment of 2 students within every WIAA
 member school (one sr. and one jr.)
 Organize regional meetings for orientation,
 education, and training



Plar

Corporate

- Secure construction or acquisition of a state of the art production facility in the Madison area
- Secure acquisition of all hardware and software requirements
- Establish a broad marketing dept. to work in conjunction with the WIAA
- Establish a professional education and training program in conjunction with the State and major hardware/software providers
- Develop and launch a transactional web site
- Complete technical staffing

Products

Hard Media (physical or electronic)

- Game Film
- Highlight Videos
 Team
 Individual
- Documentaries
- Still Photography
 Print media

roducts

Broadcast Media

- Real-Time game feeds
 Broadcast TV highlight feeds
 - ullet Studio production of weekly TV shows
- Delayed satellite distribution of game films

Field Equipmen

- 3 CCD Digital Camcorder
 Canon XL1S or Sony DSR-PD150
- Apply Power Mac G4 or Powerbook w/standard
- All associated accessories and media

 - Optional lensTripod/Steady StickBattery

 - Case
- Labeler
- Approximate cost of hardware/software configuration
 \$6000/config (500 sets)

Strategy

- Partners (WIAA and member schools) Partners (WIAA and member scrioois)

 • Zero hard dollar financial commitment

 • Royalties earned based upon product sales
 - Zero hard dollar financial commitment
- Royalties earrow.
 Camera operator wages

- Products
 Hard Media
 Affordable for the consumer
 Break even for the company
 Amadcast Media
 - Broadcast MediaProfit center

Corporate Equipment

• TBD - Budgeting for ~\$3M

Example Event P/L

Assumptions: \$15 per game film, \$5 per photo, 15% royalty

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Single Event			
Expenses			
Field Production		\$45.00	
Corporate Production		\$45.00	
Equipment/Training		\$45.00	
Media/Shipping		\$15.00	
Total		\$150.00	e and
	Qty		
Revenue			
Game Films	10	\$150.00	
Still Photography	Ŋ	\$25.00	
Sub-Total		\$175.00	
Royalty-15%		(\$26.25)	
Total		\$148.75	
Net		(\$1.25)	

Product Demonstration

- Game Film
- Highlight Film
- Documentary
- Still Photography

Next Steps

- Extended due diligence with the WIAA and select schools
- We desire a marketable and mutually beneficial partnership agreement with the WIAA for this endeavor

- Tim Eichorst Phone (608)836-0377 Email badger23@aol.com

EXHIBIT C



Production Rights and Distribution Agreement between the Wisconsin Interscholastic Athletic Association (WIAA) and American-HiFi, Inc. dba When We Were Young Productions (WWWYP)

General Terms of Agreement

I. RIGHTS

- American-HiFi/When We Were Young Productions will be granted the exclusive right to produce, sell, and distribute all WIAA tournament series and championship events for all WIAA sports with the exception of existing contracts as of the date of this contract. These rights also include the existing WIAA film library housed in Stevens Point.
- American-HiFi/When We Were Young Productions will be granted the joint right to produce, sell, and distribute, on a delayed basis, all WIAA tournament series and championship events for all WIAA sports under an existing contract as of the date of this contract. These joint rights require approval from both the WIAA and the existing contract holder as of the date of this contract.
- c. American-HiFi/When We Were Young Productions will be granted to right to market this partnership and to use the WIAA trademark, logo, and name to promote these efforts.
- d. American-HiFi/When We Were Young Productions will be granted the right to establish an online property containing the name WIAA for use of marketing and distributing WIAA tournament series and championship content.
- e. American-HiFi/When We Were Young Productions will be granted the right to legally enforce any violation of these production, sale, and distribution rights by a third party.
- f. American-HiFi/When We Were Young Productions will be granted the right to authorize affiliate production partners for the production of WIAA tournament series and championship events.

II. CONTENT PRODUCTION

- a. American-HiFi/When We Were Young Productions will agree to produce directly or through an affiliate all WIAA tournament series and championship events. Our production goals would be as follows for all sports:
 - i. 100% of all state tournaments
 - ii. 50 % of all sectional events
 - iii. 25 % of all regional events
- Event production will vary and may include any of the following:
 - i. Single camera high location
 - ii. Single camera low location
 - iii. Multiple camera mixed
 - iv. Special edit

Production enhancements may include play-by-play commentary, slow motion replay, and special graphics. Each event strategy will be spelled out in advance and budgeted out as noted in the **Revenue** section of this contract.

American-HiFi/When We Were Young Productions will act as an agent of the WIAA in the event that a third party expresses interest in the production, sale, or distribution of any WIAA tournament series or championship event that American-HiFi/When We Were Young Productions holds rights to.





- d. American-HiFi/When We Were Young Productions will agree to actively seek out and affiliate all qualified production resources that have a history of producing WIAA tournament series or championship events.
- e. American-HiFi/When We Were Young Productions will agree to actively involve local student resources in our production efforts, whether directly by us or through an affiliate, to ensure educational and cooperative benefits for the individual students and their schools.

III. CONTENT DISTRIBUTION

- a. American-HiFi/When We Were Young Productions will agree to establish a multiplatform distribution strategy and will agree to directly distribute or contract with a distribution agent for all WIAA tournament series and championship events. These agreements would include live production, live or delayed streaming, video on demand, tape delayed production, and physical media. Examples of distribution platforms are as follows:
 - i. Internet based video on demand (web streaming)
 - ii. DSL/Broadband based video on demand
 - iii. Cable based video on demand
 - iv. Satellite based video on demand
 - v. Cable (live or delayed)
 - vi. Satellite (live or delayed)
 - vii. Network (live or delayed)
 - viii. Physical Media
- The WIAA will reserve the right to review, modify, or reject any terms of these distribution agreements, which do not support the purpose and mission of the WIAA and our mutual partnership.

IV. SPONSORSHIPS

- American-HiFi/When We Were Young Productions will be granted the right to solicit and contract with sponsors that adhere to the WIAA guidelines as published.
- b. American-HiFi/When We Were Young Productions will be granted the right to place and promote these sponsors on all forms of content distribution and market them as joint WIAA and WWWYP sponsors.

V. REVENUE

- a. American-HiFi/When We Were Young Productions agrees to pay the WIAA a rights fee based on the following formula:
 - WWWYP will establish a tournament/event production cost that encompasses all business related expenses to produce the tournament or event.
 - ii. WWWYP will receive 100% of all revenues generated by the distribution of the tournament/event up until all of the costs have been recaptured.
 - iii. All revenues generated after the tournament/event cost has been recaptured will be split 50% to the WIAA and 50% to WWWYP with the exception of physical media sales.
 - iv. All sales of physical media after the initial cost has been recaptured will be split 20% to the WIAA and 80% to WWWYP.
- b. The WIAA shall be the sole overseer of any funds distribution (if any) to participating schools.
- c. American-HiFi/When We Were Young Productions will be responsible for the collection and clearing of revenues generated for content distribution.



- d. Monthly status reports will be delivered to the WIAA. Collected funds will be distributed to the WIAA on a monthly basis.
- e. All revenues generated by solicitation of sponsor contracts will be split 30% to the WIAA and 70% to WWWYP. Funds will be distributed immediately upon collection.

VI. MISCELLANEAUS

- a. American-HiFi/When We Were Young Productions will agree to provide video production resources to the WIAA upon request and at no additional cost to the WIAA. These would include:
 - i. Taping and duplication of WIAA meetings and corporate events
 - ii. WIAA promotional videos
 - iii. Tournament highlight trailers
 - iv. Video board content
- b. The WIAA will agree to provide free advertising in all tournament materials and verbally promote our partnership and products at all venues and the WIAA website.
- c. The WIAA will agree to provide preferred credentials and access to American-HiFi/When We Were Young Productions at all WIAA tournament series and championship events and venues.
- d. The term of this agreement will be for 10 years from the date of signing.

Please signify your acceptance of these General Terms of Agreement by signing below.

Acknowledged and agreed:

Tim Eichorst

President

American-HiFi/

When We Were Young Productions

BY: TWW Doug Chicker

Executive Director

WIAA

UNITED STATES DISTRICT COURT WESTERN DISTRICT OF WISCONSIN

WISCONSIN INTERSCHOLASTIC ATHLETIC ASSOCIATION, AMERICAN-HIFI, INC.

Plaintiffs,

Case No. 09-CV-0155

V.

GANNETT CO., INC., and WISCONSIN NEWSPAPER ASSOCIATION, INC.,

Defendants.

DECLARATION OF JAMES L. HOYT, PH.D. IN SUPPORT OF PLAINTIFFS' MOTION FOR SUMMARY JUDGMENT

I, James L. Hoyt, Ph.D., am a Professor Emeritus at the University of Wisconsin,
Madison, School of Journalism and Mass Communication. I make this declaration in support of
Wisconsin Interscholastic Athletic Association ("WIAA") and American-HiFi, Inc.'s

("WWWY") Motion for Summary Judgment. I state that the following is true to the best of my
knowledge and belief:

1. I have been asked by attorneys for the Wisconsin Interscholastic Athletic Association ("WIAA") to examine the WIAA's policies related to the internet transmission of its WIAA Tournament events. My opinion is limited to the WIAA's policies related to transmission via internet of WIAA Tournament events, defined herein. I expect I may provide testimony at trial that conveys the opinions as set forth in this declaration. My compensation for these and other future activities, including testifying at deposition and trial, is \$250 per hour. My compensation is not in any way dependent on the outcome of this litigation. I have prepared two expert reports

in this matter and the opinions expressed in those reports are consistent with the opinions expressed in this declaration.

- 2. In forming the opinions presented in this declaration, I have studied the WIAA's media policies related to internet transmission of WIAA events and the WIAA Senior Handbook, and the pleadings filed in this case. (Declaration of Autumn N. Nero in Support of Plaintiffs' Motion for Summary Judgment, hereinafter "Nero Decl.," at Exs. 2-5) In addition to the materials cited in this declaration, a complete list of materials I relied upon in reaching the opinions expressed in this declaration is attached as Exhibit 1 to the Declaration of Autumn N. Nero.
- 3. I have not testified as an expert in the past four years.
- 4. I received a B.S. in journalism from the University of Wisconsin, Madison ("UW") in 1965, a M.S. in Journalism and Mass Communication also from the UW in 1967, and a Ph.D. from the UW in Mass Communication in 1970. I am currently a Professor Emeritus at the UW School of Journalism and Mass Communication, where I have been on faculty since 1973. During my time at the UW, I have served as, *inter alia*, Director and Associate Director of the UW School of Journalism and Mass Communication. I also served as Head of the school's Broadcast News Sequence. Prior to joining the UW faculty, I was an assistant professor at Indiana University from 1970-73, where I held a joint appointment in the department of journalism and the department of telecommunication.
- 5. I have held a number of administrative positions at the UW, including Chair of the UW Athletic Board from 1991 to 2000, and I was a Member of the UW Athletic Board from 1990 to 2000. I was also a Member of the UW Athletic Department Committee on Broadcast Exclusivity in 1989, which was tasked with developing and implementing a policy for exclusive radio broadcast rights for UW athletics, in particular football and men's basketball.

- 6. Specific to intercollegiate athletics, I served as the UW NCAA Faculty Athletics
 Representative from 1991-2000, as a Member of the NCAA Core Course Review Committee
 from 1996-2000, and as a Member of the NCAA Legislative Review Committee from 1994-98.

 I was also a Member of the NCAA Certification site visit team at three different universities.

 Within the Big Ten Conference, I served as the UW Faculty Athletics Representative from 19912000, the Co-Chair of the Joint Group Executive Committee from 1997-99, and on the Rules and
 Legislation Committee from 1993-2000. Finally, within the Western Collegiate Hockey
 Association, I served as Chair of the Executive Committee from 1995-97 and on the Television
 Committee from 1992-99.
- as a reporter, producer, and editor to a number of broadcast news organizations. Between 1965 and 1967, I was a part-time reporter for WTMJ-TV Milwaukee, and a part-time sports anchor for Badger Sports on WHA-TV Madison. As a part of my work with WTMJ-TV, I was responsible for reporting on athletic events such as UW football, basketball, and track and field. For WHA-TV Madison, my responsibilities also included independent contract work covering the WIAA State Boy's basketball tournament. During the summer of 1971, I worked as a full-time law enforcement reporter for the *Daily Herald-Telegram* in Bloomington, Indiana. During the summer of 1972, I was a full-time news producer/editor for NBC News in Washington, D.C., during which time I worked with such persons as David Brinkley, Garrick Utley, Carl Stern, and Bill Monroe. I later continued my work with NBC News as a consultant for The Today Show and for NBC Nightly News with Tom Brokaw.
- 8. I have served as a consultant to all of the then NBC owned broadcast news stations, which were WNBC-TV, New York; WMAQ-TV, Chicago; WRC-TV, Washington; KNBC-TV,

Los Angeles; and WKYC-TV, Cleveland. In addition, I have consulted for a number of local stations including WTMJ-TV, Milwaukee; WMTV, Madison; KCAU-TV, Sioux City; WTRF-TV, Wheeling; WHOI-TV, Peoria; WSAW-TV, Wausau; KOSA-TV, Odessa, TX; and WAOW-TV, Wausau. As a part of these consulting activities, I conducted audience research addressing the station's overall newscasts, including news, weather, and sports.

- 9. A copy of my curriculum vitae is attached as Exhibit A to this declaration. As detailed therein, I have published numerous articles and authored book chapters on broadcast news writing, mass media, and cameras in the courtroom. I have at least thirty-five years experience teaching news gathering and mass media. I have been the recipient of numerous honors, including induction into the Wisconsin Broadcasters Hall of Fame in 2007, was named the International Radio and Television Society's Frank Stanton Fellow in 2001, and have been listed annually in Who's Who in America since 1986. In addition, in 1989 I was selected to participate in the Leadership Institute for Journalism Education, underwritten by Gannett Co., at the Freedom Forum Center for Media Studies at Columbia University.
- 10. I do not purport to be an expert in First Amendment law. However, I do believe I am an expert in the real world of practical mass media, including accommodations, compromises, and resolutions that various forms of news media, including print and broadcast media, regularly and routinely make in order to facilitate, permit, protect and, maximize news gathering and news reporting.
- 11. In preparation of my expert reports, I have discussed with counsel for the WIAA the applicable legal standards to a First Amendment claim. My understanding of these standards is addressed below.

- 12. It is my understanding from review of the pleadings in this case that the Wisconsin Newspaper Association and Gannett Co. (collectively "Gannett") have asserted that the WIAA's policies related to internet streaming of its state tournament sporting events violate its rights under the First Amendment of the United States Constitution. In order to prevail on this contention, I understand that Gannett must prove, among other things, both that the WIAA is a "state actor" and that the WIAA events take place in what is referred to by courts as a "public forum." I understand that the WIAA disputes both of these issues.
- 13. It is also my understanding, however, that that the First Amendment allows "state actors" to place reasonable "time, place, and manner" restrictions on speech within "a public forum," provided that such restrictions are "narrowly tailored" to serve a significant government interest and leave open sufficient alternative channels to communicate the information at issue. The opinions expressed herein are intended to address these issues in the context of the facts of this case as I understand them.
- 14. I have reviewed the 2008-09 and 2009-10 WIAA Senior High School Handbooks and the 2008-09 WIAA Media Policies and Reference Guide, in particular the polices related to internet transmission of WIAA tournament events. In addition, I have spoken with Todd Clark, Director of Communications for the WIAA, regarding these policies. My understanding of the WIAA and its internet transmission policies is based on these discussions, the pleadings in this case, and the handbooks I have reviewed, and is detailed in the following paragraphs.
- 15. The WIAA is an unincorporated, nonprofit organization of member schools located in the State of Wisconsin whose purpose is to organize, develop, direct, and control an interscholastic athletic program that promotes competitive, educational and financial opportunities for member schools. (Nero Decl., Ex. 2). These opportunities include participation in post-season WIAA-

sponsored, controlled, and funded sports tournaments, which are separate from regular season games. Affidavit of Todd C. Clark ("Clark Aff.") ¶ 3.

- Both the WIAA 2008-09 and 2009-10 Senior High School Handbook include 16. Spectator/Crowd Conduct Policies. (Nero Decl., Exs. 2 at 48-51 and 3 at 48-49). The 2008-09 Senior Handbook also contains Radio and Television Broadcast Policies, which relate only to the WIAA State Tournament series events, i.e., regional, sectional, and state level tournament events. (Nero Decl., Ex. 2 at 50-51) According to these policies, television and cable broadcasters must request permission to broadcast games. (Nero Decl., Ex. 2 at 51) Similarly, the 2009-10 Senior High School Handbook contains Video Transmission Policies, which apply to broadcast, cable, and Web stream during the WIAA State Tournament Series. (Nero Decl., Ex. 3 at 51) These policies prohibit any live or delayed television or internet streaming of WIAA State Tournament Series events without permission from the WIAA or an authorized (by the WIAA) person or entity, which varies depending on event. (Nero Decl., Exs. 3 at 51 and 2 at 51) It is also the WIAA's policy, however, to permit commercial stations covering WIAA 17. State Tournament Series for "newscast purposes," without paying a fee, to (1) use tournament action as a backdrop for live actions reports (provided no play-by-play is used); and/or (2) use up to two minutes of film, videotape, etc. on a regularly scheduled news or sports program. (Nero Decl., Exs. 3 at 51 and 2 at 51).
- 18. The WIAA has also issued a 2008-09 Media Policies Reference Guide ("Media Guide") "to assist media with requesting/issuing of working media credentials . . . the use of equipment by news gathering media and the comprehension of WIAA property rights for State Tournament Series competitions." (Nero Decl., Ex. 4 at 1) These include policies for radio, television, cable, and internet, and apply only during the WIAA-State Tournament Series, which includes regional,

sectional, and state final tournaments. (Nero Decl., Ex. 4 at 10). These policies define the term "broadcast" as "the airing/streaming . . . the entire duration of tournament games." (Nero Decl., Ex. 4 at 11)

- 19. Although "live coverage" of tournament events is not permitted absent permission, consistent with the 2009-10 Senior High School Handbook, commercial television stations and websites covering the WIAA State Tournament Series for "newscast purposes" are permitted use of two minutes of film, video or audio tape for regularly scheduled news, sports programs, or websites, and may use tournament action as a backdrop for live actions reports, provided no play-by-play is used. (Nero Decl., Exs. 4 at 12 and 5 at 11-12). No fees are required for tape-delayed broadcasts or streams for schools wishing to air games on their school's educational channel on local cable systems or the school's website. (Nero Decl., Ex. 4 at 12).
- 20. Beyond this, parties who wish to broadcast or internet stream State Tournament Series events are required to obtain permission from the rights holder. (Nero Decl., Ex. 4 at 16). It is my understanding that the WIAA has entered into an exclusive contract with When We Were Young Productions ("WWWY") for the internet streaming rights to all pre-state Tournament Series events for all sports (i.e., regional and sectional events) and all State Tournament events (i.e., finals) excluding football, basketball, and hockey finals; that Fox Sports Wisconsin ("Fox") has the exclusive rights to State Football Championship games; and that WAOW-TV/Quincy Newspapers, Inc. ("Quincy") has the exclusive rights to the Boys and Girls Basketball State Tournaments and Hockey State Finals. (Nero Decl., Ex. 4 at 16). I have been provided each of these contracts, which were attached to the initial complaint in this matter.
- 21. In addition to policies related to video transmission of games, the WIAA has adopted policies that allow for media access to communication lines (i.e., telephone, high-speed, and

wireless connections) at State Tournament venues (Nero Decl., Ex. 5 at 6), photography (Nero Decl., Ex. 5 at 6), radio or other audio broadcast (Nero Decl., Ex. 5 at 10-11, 13-14, 17), and post game interviews. Under these policies, subject to some limitations, newspapers are offered up to five media credentials for daily papers (two for weekly newspapers), which allows reporters access to communications lines for a fee of \$25-30, permits the taking of pictures for reporting (Nero Decl., Ex. 5 at 6-8), and allows for post-game interviews of players and coaches (Nero Decl., Ex. 5 at 8-10).

2.2. I have reviewed the policies of the WIAA related to internet transmission of the WIAA Tournament events, and, in my opinion based on more than forty years in the field of broadcasting and journalism, these policies are reasonable, strike a proper balance between news and broadcast entities seeking to report on the events and/or live broadcast from the events, and are consistent with those generally used by sports teams, organizations, and leagues, including public educational institutions. In my opinion, these policies do not unreasonably restrict newspapers from reporting on these events or from covering these events in a comprehensive way. Exclusive rights agreements for television, radio, and internet such as the ones employed by the WIAA, are commonly used by athletic teams, leagues, and organizations. Such agreements are frequently used by public education institutions to generate funds to support a broad array of athletic participation opportunities for student athletes. In my opinion, the WIAA's policies properly serve this function while simultaneously and reasonably permitting access to the broadcast and print media. These policies are intended to and do balance and reasonably accommodate the otherwise potentially competing and inconsistent interests of the WIAA and member schools to receive financial benefits from these events and the desire of the media to report on these events.

- 23. Based on my experience in intercollegiate athletics administration, protecting broadcast rights and awarding them on an exclusive basis is clearly a major financial underpinning of college sports. As a member of a variety of committees over the years, I have been a party to discussions and deliberations which have led to exclusive contracts between universities and/or conferences and rights holders. Specifically, in 1989 I was a member of the UW Committee on Broadcast Exclusivity, which determined there was a substantial value to the UW by awarding exclusive rights for radio broadcasts of football and men's basketball games, and solicited and awarded exclusive rights for the first time at the UW. (Nero Decl., Exs. 6-8) As a part of our discussions, it is my recollection that we reviewed the broadcast policies of other Big Ten universities, and determined that UW's policy of non-exclusivity was inconsistent with the policies of other institutions, which allowed for exclusive broadcast rights thereby gaining substantial additional revenue. The committee therefore changed a long-standing UW non-exclusive policy that permitted virtually any radio station to carry games so long as they paid a modest rental fee for a broadcast booth. (Nero Decl., Exs. 7-8)
- I have also participated in discussions within the Big Ten Conference Joint Group (the athletic directors and faculty representatives) regarding the conference policy that awards exclusive television rights for multiple sports to one or more of the major national networks. Universities in the Big Ten assign their television and broadband rights to the Big Ten Conference, which then enters into exclusive license agreements for the Conference. Revenues from these contracts are then divided among the Conference members. For example, the Big Ten currently licenses Big Ten Football coverage to Disney, i.e., ABC and ESPN, for a substantial (but confidential) fee. This agreement lasts from 2007-2017. (Nero Decl., Ex. 9) For

the past two years, since the advent of the Big Ten Network, games that are declined by Disney are carried on the Big Ten Network. (Nero Decl., Ex. 10)

- 25. In addition, as a member of the Television committee of the Western Collegiate Hockey Association, I was involved in discussions that led to the awarding of an exclusive television contract for televising and/or streaming all WCHA Tournament Games—opening round and Final Five. (Nero Decl., Ex. 11) Much like the WIAA, it is my understanding based on my participation in the administration of the WCHA that the WCHA is funded primarily through revenues derived from its tournament events, i.e., the opening round and Final Five. Thus, the purpose of the awarding of this exclusive contract was to increase revenues of the WCHA.
- 26. Prior to the awarding of exclusive rights at the UW, individual radio stations could rent a booth and broadcast football and basketball games on their own. In 1988-89, that rental rate was a minimum of \$550 per game. (Nero Decl., Ex. 7) According to records from the UW Committee on Broadcast Exclusivity, revenues from radio of football and basketball for the years 1983-88 were as follows:

	<u>Football</u>		Basketball	28 Games
L988	11 Games Home & Away	\$ 99,905.86	\$6970.00	88-89
L987	11 Games Home & Away	99,041.48	7700.00	87-88
L986	12 Games Home & Away	108,372.48	8130.00	86-87
L985	<pre>11 Games Home & Away (increased rate)</pre>	87,478.45	3360.00	85-86
L984	11 Games Home & Away	77,713.86	4380.00	84-85
L983	11 Games Home & Away	72,777.00	4350.00	83-84

(Nero Decl., Ex. 8) The UW's initial estimate was that an exclusive license agreement would *triple* radio broadcast revenue. (Nero Decl., Ex. 6) In fact, Wisconsin's most recent renewal with

its current radio rights holder, Learfield Communications, is for *\$75 million* over 12 years, far exceeding initial estimates.¹ (Nero Decl., Ex. 12) Clearly, there is a value to a school, league, tournament, or sponsor in protecting and awarding exclusive broadcast rights.

- 27. In April of 2007, the University of Wisconsin-Madison extended its multi-media rights contract with Learfield Sports for an additional 12 years, through June 30, 2019. Under this contract Learfield will pay the UW Division of Intercollegiate Athletics in excess of \$75 million in guaranteed rights payments.
- 28. This contract granted to Learfield the exclusive rights to produce and distribute radio broadcasts of Badger football, basketball, and hockey games on a statewide network. Under the same contract, Learfield also acquired the multi-media rights to create marketing opportunities including television, venue signage, retail promotions, and uwbadgers.com, among others. The contract did not include multi-media rights to stream or archive UW athletic events on the web.

 29. In October of 2009, the UW Athletic Department and Learfield amended the original contract to explicitly add live streaming internet rights for a five-year period, through June 30, 2014. In carrying out this additional contract provision, Learfield has contracted with CBS Sports to produce and manage on-line content, including live streaming of available games under this contract.
- 30. Under the supplementary agreement, Learfield now sells monthly access to the public for \$9.95/month, or annual access for \$79.95/year. For this amount subscribers receive live audio streams of home and away football games, home and away men's and women's basketball games, and home and away men's hockey games. In addition, subscribers receive streams of all

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¹ In addition to radio, this contract covers expanded rights, including additional sports (e.g., women's basketball and hockey), game programs, and inventory such as stadium signage.

coaches' shows and live streams of available games, news post-game news conferences, etc.

The complete description of the available content is included as Nero Decl. Ex. 17.

31. All coverage distributed in this manner on the web is subject to the same limitations as all other exclusive Learfield productions. The relevant wording is as follows:

Unless expressly authorized in writing by the University of Wisconsin Division of Intercollegiate Athletics (UW) and/or the Big Ten Conference (BTC), the use, distribution, adaptation, display, performance, or publication in any form of any photograph, video, film/tape, audio, drawing, account or description of the event or any excerpt of the foregoing...shall be expressly prohibited.... All ownership, copyright, and property rights in the event and in any telecast, photograph, broadcast, transmission or recording thereof shall remain the sole property of the UW and/or BTC, unless otherwise conveyed by separate written agreement between the UW and/or BTC and broadcast partner, and no such rights are conferred or intended to be conferred or created on behalf of any other person or entity by the issuance of (a) credential and access to the event.

- 32. The amendment of the UW-Learfield contract to include exclusive Internet streaming rights is consistent with the practice of the UW, the Big Ten Conference, the NCAA, and other intercollegiate athletic organizations, who rely upon exclusive rights contracts to generate revenue. These exclusive rights contracts also increase opportunities for participation in many sports and increase public exposure for less visible sports.
- 33. In my opinion, the contract between the WIAA and WWWY for exclusive internet streaming rights is also consistent with these goals.
- 34. UW's policies are consistent with other public universities throughout the country in that the value of the exclusive broadcast rights is a key component in the business plan for athletics,

which I have reviewed in my work with the above-noted committees. Learfield alone has agreements with more than 50 universities and conferences related to radio sports coverage. (Nero Decl., Ex. 13) The exclusivity of UW's broadcast rights is similar to that of other large public universities. This is common practice. It is nothing out of the ordinary for organized sports.

- 35. In my opinion, the UW's exclusive license agreements and those of other universities and conferences are comparable to the exclusive license arrangements of the WIAA related to internet transmissions of WIAA Tournament events.
- 36. It is my opinion that the WIAA's exclusive rights agreements, in particular its agreement with WWWY productions, provides much needed funding for the WIAA. The WIAA therefore has a substantial interest in this contractual arrangement.
- 37. It is my understanding that the contract with WWWY productions was entered into in part due to budgetary needs of the WIAA. Clark Aff. ¶ 4-7. According to the WIAA, in 2004 it was informed by Quincy, carrier of Boys and Girls State Basketball State Tournament and Hockey State Finals Tournament, that it could not afford to continue to pay the amount included in the rights agreement. Clark Aff. ¶ 4. The WIAA accordingly sought out other sources of revenue. Clark Aff. ¶ 4. In 2005, the WIAA was approached by WWWY with the idea of transmitting WIAA games over the internet. Clark Aff. ¶ 7. At the time, it is my understanding that no television station carried games other than the Football Finals, Boys and Girls Basketball, and Hockey Finals, except that in some instances local community access channels would broadcast local games. Clark Aff. ¶ 5. The WIAA was unaware of any internet streaming of games. Clark Aff. ¶ 5. The WIAA thus received no rights fees related to the vast majority of its

- sports. Clark Aff. ¶ 5-6. The WWWY contract thus represented an entirely new and important stream of revenue for the nonprofit organization.
- 38. I have been provided with a copy of the WIAA budget from the year 2007-08. (Nero Decl., Ex. 14) The WIAA's tournament events are overwhelmingly the largest source of WIAA operating revenue. Nero Decl., Ex. 14; Clark Aff. ¶ 3. Indeed, by my calculation based on the 2007-08 budget, the WIAA receives approximately 87% of its annual revenues from the WIAA Tournament series. (Nero Decl., Ex. 14) Like the WCHA, the WIAA thus depends on its tournament events to survive.
- 39. A portion of this operating revenue is derived from its exclusive media rights agreements. In 2008, the WIAA received \$75,000 for the Boys and Girls Basketball State Tournaments and Hockey State finals, \$20,000 for Football State finals, and \$60,000 from When We Were Young Productions for all other tournament events. Nero Decl., Ex. 15; Clark Aff. ¶ 8.
- 40. In my opinion, were these contracts switched to non-exclusive, this revenue stream would all but disappear. Based on precedent in other leagues and athletic organizations, the value of the media rights rests primarily in exclusivity. Stations and networks are willing to make investments in their coverage in order to enhance the value of their exclusive rights payments.
- In addition to the \$60,000 paid by WWWY in 2008, the WIAA also received \$80,000 from a sponsorship partner. Clark Aff. ¶ 10. A portion of the value of this sponsorship agreement comes from advertising in programming produced by WWWY. Clark Aff. ¶ 10. The overall value to the WIAA associated with the contract with WWWY is therefore substantially above the \$60,000 paid for the internet transmission rights.
- 42. Furthermore, it is my understanding that WWWY provides additional services to the WIAA as a part of the agreement, including without limitation video production, audiovisual and

graphics support for tournament games such as producing video programming for scoreboards at tournament sites. Clark Aff. ¶ 9. In addition, WWWY also provides web transmissions for mandatory WIAA sport rule meetings which allows members, officials, and coaches to view these mandatory meetings remotely thereby avoiding travel, and at their convenience. Clark Aff. ¶ 9. Because it receives these otherwise costly services as a part of the exclusive agreement, the contract with WWWY productions is thus of even greater financial value to the WIAA than the amount paid in royalties from WWWY.

- 43. In my experience at the UW and with the Big Ten Conference, the WCHA, and the NCAA, the exclusive rights fees for tournament events generates revenue that is critical for the funding of sports that are unable to produce revenue on their own. In this way, the exclusive rights revenue leads to expanded participation opportunities for student athletes. It is my opinion that the WIAA's exclusive rights contracts perform this same role for the organization, by funding otherwise under-funded and under-exposed sports. In this regard, the WIAA's exclusive rights agreements create opportunities for participation for Wisconsin student athletes that otherwise would likely not exist.
- 44. The vast majority of the WIAA tournament revenue is derived from basketball and football. (Nero Decl., Ex. 14) In fact, in 2008 the WIAA generated positive net revenues in only basketball, football, wrestling, volleyball, hockey, and soccer. (Nero Decl., Ex. 14) All remaining sports, which include baseball, track, swimming, tennis, gymnastics, cross country, softball, and golf, *operate at a loss* and must be subsidized by the revenue from the more popular WIAA tournament events. (Nero Decl., Ex. 14) The WIAA thus depends in part on its rights agreements to fund otherwise under-funded sports tournaments for less popular sports.

- 45. Moreover, in my opinion, the WWWY exclusive license agreement provides expanded exposure for less visible sports. As noted above, prior to the WWWY agreement, these games were carried solely on local cable access, and even then on an irregular basis. Clark Aff. ¶ 5. Thus, by way of example, a resident of Green Bay would only be able to watch a WIAA volleyball tournament game if that game were carried on local cable access in Green Bay. In contrast, under the WWWY contract, this game can be made available over the internet to anyone with a computer and internet access on WIAA TV (http://wiaa.tv/), a web portal that allows access to WIAA events. Clark Aff. ¶ 8. In fact, whereas in 2004-05 no WIAA events were offered on the internet, in 2008-09 the WIAA web portal transmitted 82 live WIAA events on WIAA TV and 175² offered on archived stream and DVD, of which 134 were under the WWWY contract with WIAA. Nero Decl., Ex. 16; Clark Aff. ¶ 8. Thus, in my opinion, the WWWY contract has enhanced public access to WIAA events.
- 46. The WWWY contract helps fulfill one of the WIAA's stated objectives, to promote "opportunities for member schools participation." (Nero Decl., Ex. 2 at 14). Prior to entering its contract with WWWY, it is my understanding that the WIAA (at the request of participants) had unsuccessfully sought out a carrier for sports other than football finals, basketball, and hockey finals by making inquiries with their existing rights holders. Clark Aff. ¶ 6. In fact, it is my understanding that prior to WWWY, no other organization had approached the WIAA with an offer to transmit events via internet at all, let alone to transmit the then-underexposed and less visible sports such as cross country and tennis. Clark Aff. ¶ 7. The contract with WWWY thus provided an opportunity for the WIAA to promote a particular group of events and student athletes. Clark Aff. ¶ 7.

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² In my initial expert report, I stated that 182 games were offered archived stream. It is my understanding that this may be slightly lower, as stated above. This does not alter my opinion as expressed in my initial report.

- 47. Finally, in my opinion, were the contract on a non-exclusive basis, it is unlikely these sports would be made available to the non-attending public. Other than WWWY, media have not expressed an interest in carrying a full range of the WIAA Tournament events. This is demonstrated in Gannett's complaint, which discusses multiple attempts by newspapers to transmit football *only* from their local area teams. Furthermore, without the economic protection provided by exclusivity, an internet rights holder would be unlikely to invest in and commit the equipment and facilities necessary to produce this number tournament events, in particular those sports which do not normally command significant public attention.
- 48. Indeed, in this regard WWWY's interest in exclusivity, and the WIAA's interest in limiting internet transmissions of its games, is comparable to a newspaper's or wire service's need to protect its product from unapproved use on other websites or publications, or, more directly on point, much like Major League Baseball's interest in prohibiting unauthorized use of the broadcast of its game without the advance written consent of Major League Baseball, which has itself entered into rights agreements related to that content.
- 49. As someone who has worked long and hard in, and has studied and taught in, the field of news gathering and reporting, and in the field of broadcast journalism, I recognize and profoundly respect the interests and needs of the public, and the eyes and ears of the public (i.e., the media) not only to report on newsworthy events, but to have reasonable access to newsworthy events in order to properly carry out these tasks and responsibilities.
- 50. However, as a result of my long tenure in this field, I am also firmly of the opinion that "rights of access" to newsworthy events is a relative, not an absolute concept, particularly as it has played out in the context of real life events. That is because of the practical truth of the observation that the "legitimate" rights of one entity inherently conflict with the "legitimate

rights" of another. That is particularly true in the context of sports events and the "reporting" on the same. There is no doubt that there is a news gathering/news reporting aspect to these events. What a team does in an athletic event certainly has public interest and may be "newsworthy." And, of course, "incidents" at a game, such as a fight or the collapse of bleachers, have their independent "newsworthy" significance.

- 51. But, in my opinion, it is equally true that the "sponsoring" or "supporting" or "responsible" entity that puts on the event has a rational and realizable interest in maximizing the economic benefit which accrues from the event, i.e., the public sees the event, in part at least, as entertainment and will pay to see it, particularly when the proceeds are invested in promoting other such events, or related events, or activities.
- 52. The "media" and "sponsoring" schools (or related organizations such as the NCAA and the WIAA) have, at least <u>de facto</u>, recognized these valid, rational and potentially competing interests. What has developed, in my experience, and in my opinion, is a <u>de facto</u> (but is often formalized in contract and licenses) accommodation, or compromise, or "stand off" whereby all interests agree to "reasonable" time, place and manner restrictions restrictions that are intended to balance these competing "rights" and concerns, while still recognizing the respective legitimacy of the rights and concerns of each of the involved and affected "entities."
- 53. For the reasons hereinafter discussed, in my opinion, the identified practices, policies and restrictions that the WIAA has formulated and practiced strike a proper balance and, in this context, constitute reasonable time, place, rules, practices and restrictions.
- 54. Throughout my years of experience working for broadcast stations and being involved in intercollegiate athletics, I have not encountered ways in which university exclusive broadcast rights policies have hindered media outlets from reporting on games. The only significant

restriction from these policies is on the broadcasting or streaming of the games. Other than that, reporters for print, broadcast, and internet media are free to report on games without significant restrictions on their coverage.

- 55. In fact, the WIAA's restrictions are typical of those I have encountered in my coverage of games. As a reporter covering UW athletics, I was able to film game action, record relevant statistics and other game information via audio recording and good, old fashioned pen to paper. I had access to coaches and athletes following games to complete game stories and sidebars. The presence or absence of an exclusive broadcast rights policy does not affect any of these basic journalistic practices.
- 56. Based on my experience, it is common practice for reporters covering athletic events to be restricted to specific locations and to have limitations placed on the equipment they can use, for example, on the ability to originate a radio broadcast. These policies are typically based both on the availability of space and to control the conduct of the game. For example, television and still photographers are given clear limits on where they can work during a game so as to not interfere with the game itself, or simply because of space limitations. You cannot have an unlimited number of television cameras because there is not space for them. Similarly, broadcasters originating game coverage regardless of the type of media (i.e., radio, television, or internet) are accustomed to working within pre-defined space limitations, for example, a broadcasting booth. In my opinion, in virtually all cases, broadcasters and reporters know and respect any exclusive rights agreements that are in place for that event. There is a widely recognized distinction between *covering* a game, which virtually any news organization can do, and *carrying* a complete broadcast or stream of a game, which is limited to the appropriate rights holder.

- 57. First and foremost, under the WIAA's policies, newspapers are not foreclosed from internet streaming of games. They are able to transmit games if they simply pay the required fee to WWWY. This is in contrast to the exclusive license agreements for television, which defendants have not challenged, and which do not allow the defendants or any other organization the right to transmit live or delayed game coverage in any instance.
- Second, newspapers have sufficient opportunity to report for their regular editions the details and outcomes of the games, including sidebars, statistics, and other relevant information. As detailed above in paragraphs 14-21, they can report on the games, photograph the events, and have interview access to coaches and athletes. This permits the thorough coverage which the newspaper audience expects. At the same time, they can provide online score updates and other relevant information regarding a game in progress, except for carrying the live stream of the game itself. Newspapers are also permitted to carry live audio streams of tournament games from radio rights holders by paying an additional rights fee of \$40-50 to WIAA.
- 59. In addition, websites can use up to two minutes of highlights or other action for reporting purposes, and may exceed two minutes with the WIAA's approval. This policy also applies to commercial television stations. Websites can also report live from tournament venues using live game action as a backdrop for the report so long as there is no play-by-play commentary. These policies apply to all commercial television stations and websites using video for newscast or webcast purposes.
- 60. As a result of these policies, newspapers have virtually complete access to the athletic events in order to perform their expected journalistic functions, i.e., to fully describe, explain, and analyze newsworthy events. Only in streaming a game do they need to pay a rights fee to anyone outside the WIAA, which is consistent with the policies that apply to radio and television

media. This is consistent with the way in which coverage is handled in intercollegiate athletics and also consistent with the practices of professional sports leagues including the National Football League, Major League Baseball, and the National Basketball Association.

61. Finally, I do not see WWWY and state newspapers as being competitors. They each have their own roles to play. WWWY pays an exclusive rights fee to provide production services to client media. Newspapers are able to fully report on the WIAA Tournament events for their readers in all traditional ways. In my opinion, the WIAA's policies do not interfere with the abilities of newspapers to fully cover the WIAA Tournament events.

I declare under penalty of perjury, under the laws of the United States, that the foregoing is true and correct to the best of my knowledge.

Dated this 12th day of January, 2010.

James L. Hoyt, Ph.D.

EXHIBIT A

CURRICULUM VITA

James L. Hoyt

ADDRESS: 3415 Conservancy Lane

Middleton, WI 53562 PHONE: 608/831-3255 E-MAIL: jlhoyt@wisc.edu

DATE:

August, 2009

FORMAL EDUCATION:

Ph.D. Mass Communications University of Wisconsin,

Madison, 1970

M.S. Journalism and University of Wisconsin,

Mass Communications Madison, 1967

B.S. Journalism University of Wisconsin,

Madison, 1965

ACADEMIC POSITIONS:

At the University of Wisconsin, Madison, School of Journalism and Mass Communication:

2002-present: Professor Emeritus

1981-2002: Professor 1981-1991: Director

1980-1981: Associate Director 1976-1981: Associate Professor

1974-1995: Head, Broadcast News Sequence

1973-1976: Assistant Professor

At the Indiana University School of Journalism and Dept. of Telecommunications:

1970-1973: Assistant Professor

At the University of Wisconsin School of Journalism and Mass Communication

1968-1970: Research Assistant

At the University of Pennsylvania, Annenberg School of Communications:

1967-1968: Research Fellow

Page Two

At the University of Wisconsin School of Journalism and Mass Communication

1965-1967:

Teaching Assistant, Broadcast Journalism

MEDIA POSITIONS:

2002-2008: Part-time news producer/coach, WISC-TV, Madison, WI

1994-1995: Part-time news consultant, WMTV, Madison, WI

1992-1993: Part-time news consultant, WAOW-TV, Wausau, WI

1989-1992: Part-time news consultant, NBC News, New York

"NBC Nightly News with Tom Brokaw"

1978-1988: Part-time news consultant: WTMJ-TV, Milwaukee;

WMTV, Madison; KCAU-TV, Sioux City, Iowa; WTRF-TV, Wheeling, W.V.; WHOI-TV, Peoria,

Ill.; WSAW-TV, Wausau, WI; KOSA-TV, Odessa, TX

1976-1979: Part-time news consultant, NBC News, New York

"The Today Show"

1976-1978: Part-time news consultant, WNBC-TV, New York;

WMAQ-TV, Chicago; WRC-TV, Washington; KNBC-TV, Los Angeles; WKYC-TV, Cleveland

1972 Full-time news producer/editor, NBC News,

Washington, D.C. (Summer)

1971: Full-time law enforcement reporter, **Daily Herald-**

Telegram, Bloomington, Indiana (Summer)

1965-1967: Part-time reporter, WTMJ-TV, Milwaukee

1965-1967: Part-time sports anchor, WHA-TV, Madison

1965: Full-time reporter/editor, WTMJ-TV, Milwaukee

ACADEMIC AND PROFESSIONAL ORGANIZATIONS:

Association for Education in Journalism & Mass Communications, Broadcast Education Association, Radio-Television News Directors Association, International Radio and Television Society

PUBLICATIONS:

A. BOOKS:

- Edward Bliss Jr. and James L. Hoyt, *Writing News for Broadcast*, Third Edition, New York: Columbia University Press, 1994.
- Ray Hiebert, et al, *MASS MEDIA VI*, New York: Longman, 1991. (Contributing Editor and chapter author)
- James L. Hoyt, *Mass Media in Perspective*, Dubuque, Iowa: Kendall/Hunt Publishing Co., 1984.

B. ARTICLES (abbreviated list):

- "The Case for the Courtroom Camera," Wisconsin Alumnus, 1984, March/April, Vol. 85, No. 3, pp. 18-20.
- "Prohibiting Courtroom Photography: It's Up to the Judge in Florida and Wisconsin," <u>Judicature</u>, 1980, January, Vol. 63, No. 6, pp. 290-295.
- "Cameras in the Courtroom: Another Chance," <u>Public</u>

 <u>Telecommunications Review</u>, 1978, May/June, Vol. 6, No. 3, pp. 28-34.
- "Courtroom Coverage: The Effects of Being Televised," <u>Journal of</u>
 <u>Broadcasting</u>, 1977, Vol. 21, pp. 487-95.
- "Professionalism and Performance of Television Journalists," <u>Journal of</u>
 <u>Broadcasting</u>, 1977, Vol. 21, pp. 97-109. (with Karl Idsvoog)
- "Source-Message Orientation in Interpersonal and Media Influence," **Journalism Quarterly**, 1975, Vol. 52, pp. 472-476.
- "Effect of Media Violence 'Justification' on Aggression, <u>Journal of</u>
 Broadcasting, 1970, Vol 14, pp. 455-464.
- "The Emergence of Source-Message Orientation as a Communication Variable," <u>Communication Research</u>, 1974, Vol. 1, pp. 89-109. (with Vernon Stone)
- "Strength and Duration of the Effect of Aggressive, Violent, and Erotic Communications on Subsequent Aggressive Behavior,"

 Communication Research, 1974, Vol. 1, pp. 286-306.(with Dolf Zillmann)

C. BOOK CHAPTERS:

- "Effect of Media Violence 'Justification' on Aggression," also appears as a chapter in Franklin and Kohout (Eds.), Social Psychology and Everyday Life, New York: David McKay Co., 1973.
- "News Consultants," in Sterling and Whitney (Eds.), **Encyclopedia of Journalism**, Sage Publications, 2010 (forthcoming)

D. PAPERS READ (abbreviated list):

- "Cameras in the Courtroom: From Hauptmann to Wisconsin, presented at AEJMC Convention, Seattle, Washington, 1978.
- "The Effects of Being Televised: An Experimental Test," presented at AEJMC Convention, College Park, Maryland, 1976.
- "Classroom and Newsroom Contact: A Survey Report," presented at AEJMC Convention, College Park, Maryland, 1976. (with Vernon Stone)
- "Influence of Broadcast and Print Media on Media Critics and Supporters," presented at AEJMC Convention, Ottawa, Ontario, Canada, 1975.
- "Source-Message Orientation in Interpersonal and Media Influence," presented at AEJMC Convention, San Diego, Calif., 1974.
- "Radio News: An RTNDA Survey," presented at International Conference of Radio-Television News Directors Association, Seattle, Wash., 1973. (with Vernon Stone)
- "Source-Message Orientation as a Communication Variable," presented at AEJMC Convention, Washington, D.C., 1973. (with Vernon Stone)
- "Effects of Media Violence 'Justification' on Aggression," presented at AEJMC Convention, Berkeley, Calif., 1969.

TEACHING:

At University of Wisconsin, Madison:						
Journalism	201	Introduction to Mass Communications				
Journalism	203	News Writing				
Journalism	204	Reporting				
Journalism	205	Newswriting and Reporting				
Journalism	301	Reporting of Public Affairs				
Journalism	304	Interpretation of Contemporary Affairs				
Journalism	305	Writing of Feature Articles				
Journalism	351	Introduction to Broadcast News				
Journalism	352	Television News				
Journalism	354	Television Documentary				
Journalism	561	Mass Communications and Society				
Journalism	661	Mass Media Problems and Issues				
Journalism	676	Mass Media Ethics				
Journalism	701	Proseminar in Mass Communications				
Journalism	903	Seminar: Communication Research Design				
Journalism	951	Seminar: Broadcast News Research				
At Indiana University, Bloomington:						
Journalism	J-111	Verbal Communications				
Journalism	J-371	Principles of Broadcast News				
Journalism	J-374	Broadcast Newswriting and Reporting				
Journalism	J-384	Broadcast News Editing				
Journalism	J-410	Media as Social Institutions				
Journalism	J-470	Broadcast Media Analysis				
Journalism	J-510	Media and Society Seminar				
Radio-TV	R-401	Social Action Via Mass Media				
Radio-TV	R-520	Problems of Broadcast News				
Radio-TV	R-535	Communication Theory				

ADMINISTRATION:

At University of Wisconsin, Madison:

- *Director, School of Journalism and Mass Communication, 1981 to 1991.
- *Chair, UW Athletic Board, 1991 to 2000.
- *UW Faculty Representative to Big Ten, NCAA, and WCHA, 1991 to 2000.
- *Member, UW Athletic Board, 1990 to 2000.
- *Chair, University of Wisconsin Commission on Fraternities and Sororities, 1988 to 1992.
- *Member, UW Athletic Department Committee on Broadcast Exclusivity, 1989-1990.
- *Editorial Board, Wisconsin Alumni Association, 1988 to 1995.

- *Member, Executive Committee, Madison Campus Chapter, AAUP, 1975-1981, 1984 to 1988.
- *Chair, H. V. Kaltenborn Scholarship Selection Committee, 1980 to 1993.
- *Member, Chancellor's UW-Extension Broadcasting Advisory Committee, 1980 to 1995.
- *Producer, for Chancellor's Office, Madison campus institutional spots for televised Big Ten football and basketball games, 1978-1988.
- *Advisor, UW chapter, Society of Professional Journalists, 1974 to 2001.
- *Speaker, University of Wisconsin Alumni Association Founder's Day Dinners – over the years I have spoken at UW Founder's Day events in Miami, Detroit, Philadelphia, Dallas, Atlanta, Houston, San Antonio, Seattle, Portland, San Diego, Los Angeles, Kansas City, Cleveland, Cincinnati, Charlotte, and others

Within the Professions:

- *Association for Education in Journalism and Mass Communication; Past-Head of Radio-TV Journalism Division and elected member of national Standing Committee on Professional Freedom & Responsibility.
- *Radio-Television News Directors Association; past member of International Board of Directors
- *William Randolph Hearst Foundation, Steering Committee
- *Wisconsin Associated Press Broadcast Advisory Board
- *Broadcast Education Association, member
- *International Radio and Television Society, member
- *Wisconsin Supreme Court, member of Committee to Monitor Cameras in the Courtroom, 1978-1979.
- *Accrediting Council for Education in Journalism and Mass Communication; Vice chair of Accrediting Committee, 1984-1988;

Within Intercollegiate Athletics:

- *National Collegiate Athletic Association (NCAA)
 - >Faculty Athletics Representative, 1991-2000
 - >Member of Core Course Review Committee, 1996-2000
 - >Member of Legislative Review Committee, 1994-1998
- *Big Ten Conference
 - >Faculty Athletics Representative, 1991-2000
 - >Co-Chair, Joint Group Executive Committee, 1997-1999
 - >Rules and Legislation Committee, 1993-2000
- *Western Collegiate Hockey Association
 - >Chair of Executive Committee, 1995-1997
 - >Television Committee, 1992-1999

Judge for following professional journalism contests:

- +Northwest Broadcast News Association
- +Columbia University/duPont Television Awards
- +Iowa Broadcast News Association
- +Illinois News Broadcasters' Association
- +Society of Professional Journalists, National Awards competition
- +Society of Professional Journalists, \$10,000 National Pulliam Editorial Writing Award
- +Wisconsin State Bar Association's Golden Gavel Media Awards
- +AP West Virginia Television News Awards
- +AP Nebraska Television News Awards
- +AP Washington, DC Television News Awards
- +AP Texas Broadcast News Awards

EDUCATIONAL CONSULTING AND ACCREDITATION:

Chair or member of ACEJMC Accrediting teams at:

Ohio University

Syracuse University

Northwestern University

University of Illinois

University of New Mexico

Drake University

South Dakota State University

Member of NCAA Certification site visit teams at:

University of Nebraska

University of Maine

Kent State University

Consultant to:

University of North Carolina, Chapel Hill, on Masters and Ph.D. programs in journalism and mass communication, 1997-98

University of Kentucky on revision and development of telecommunications department, 1979-81

Louisiana Board of Regents on college journalism programs in the state of Louisiana, 1987-88

Texas A&M University on development of journalism staff and curriculum, 1987-1991

Marquette University on development of telecommunications department, 1988-89

Bowling Green State University on development of journalism school, 1990-91

Texas Higher Education Coordinating Board on evaluating Ph.D. programs in Texas, 1991-92

HONORS:

- >Association for Education in Journalism and Mass Communication

 Distinguished Broadcast Journalism Educator, 2002
- >International Radio and Television Society Frank Stanton Fellow, 2001
- >Wisconsin Broadcasters Association Hall of Fame, 2007
- >Wisconsin Associated Press

 Carol Brewer Award, 1996

 Outstanding Contributions to Broadcast Journalism
- >Listed annually in Who's Who in America annually since 1986
- >Listed annually in Who's Who in American Education since 1993
- >Leadership Institute for Journalism Education at Freedom Forum Center for Media Studies, Columbia University (previously Gannett Center for Media Studies)

UNITED STATES DISTRICT COURT WESTERN DISTRICT OF WISCONSIN

WISCONSIN INTERSCHOLASTIC ATHLETIC ASSOCIATION, AMERICAN-HIFI, INC.

Plaintiffs, Case No. 09-cv-0155

GANNETT CO., INC., and WISCONSIN NEWSPAPER ASSOCIATION, INC.,

Defendants.

ADDENDUM TO EXPERT REPORT OF JAMES L. HOYT, Ph.D.

I. INTRODUCTION

- 1. On September 29, 2009, I submitted an expert report on behalf of the Wisconsin Interscholastic Athletic Association ("WIAA"). In that report, I described the current contract for radio and multi-media rights between the University of Wisconsin-Madison and Learfield Sports. See Expert Report of James L. Hoyt at ¶ 25 & Ex. M.
- 2. In October 2009 the University of Wisconsin and Learfield amended their exclusive contract to include live internet streaming.
- 3. Because WIAA's contract granting exclusive internet streaming rights to When We Were Young Productions ("WWWY") is at issue in this litigation, I wish to add the following facts regarding the current UW-Learfield contract to my expert report:

II. THE UW-LEARFIELD CONTRACT

4. In April of 2007, the University of Wisconsin-Madison extended its multi-media rights contract with Learfield Sports for an additional 12 years, through June 30, 2019. Under this

contract Learfield will pay the UW Division of Intercollegiate Athletics in excess of \$75 million in guaranteed rights payments.

- 5. This contract granted to Learfield the exclusive rights to produce and distribute radio broadcasts of Badger football, basketball, and hockey games on a statewide network. Under the same contract, Learfield also acquired the multi-media rights to create marketing opportunities including television, venue signage, retail promotions, and uwbadgers.com, among others. The contract did not include multi-media rights to stream or archive UW athletic events on the web.
- 6. In October of 2009, the UW Athletic Department and Learfield amended the original contract to explicitly add live streaming internet rights for a five-year period, through June 30, 2014. In carrying out this additional contract provision, Learfield has contracted with CBS Sports to produce and manage on-line content, including live streaming of available games under this contract.
- 7. Under the supplementary agreement, Learfield now sells monthly access to the public for \$9.95/month, or annual access for \$79.95/year. For this amount subscribers receive live audio streams of home and away football games, home and away men's and women's basketball games, and home and away men's hockey games. In addition, subscribers receive streams of all coaches' shows and live streams of available games, news post-game news conferences, etc.

 The complete description of the available content is included as Exhibit AA.
- 8. All coverage distributed in this manner on the web is subject to the same limitations as all other exclusive Learfield productions. The relevant wording is as follows:

Unless expressly authorized in writing by the University of Wisconsin Division of Intercollegiate Athletics (UW) and/or the Big Ten Conference (BTC), the use, distribution, adaptation, display, performance, or publication in any form of any photograph, video, film/tape, audio, drawing, account or description of the event or any excerpt of the foregoing...shall be expressly prohibited.... All ownership, copyright, and property rights in the event and in any telecast, photograph, broadcast, transmission or recording thereof

shall remain the sole property of the UW and/or BTC, unless otherwise conveyed by separate written agreement between the UW and/or BTC and broadcast partner, and no such rights are conferred or intended to be conferred or created on behalf of any other person or entity by the issuance of (a) credential and access to the event.

- 9. The amendment of the UW-Learfield contract to include exclusive Internet streaming rights is consistent with the practice of the UW, the Big Ten Conference, the NCAA, and other intercollegiate athletic organizations, who rely upon exclusive rights contracts to generate revenue. These exclusive rights contracts also increase opportunities for participation in many sports and increase public exposure for less visible sports.
- 10. In my opinion, the contract between the WIAA and WWWY for exclusive internet streaming rights is also consistent with these goals.

VII. CONCLUSION

11. The opinions in my expert report and in this addendum are based on information currently available to me. I reserve the right to continue my investigation and study, and to supplement, expand, or modify the opinions expressed in this report as discovery progresses in this case and further information becomes available to me.

Dated this Sday of December 2009

James L. HoyT, Ph.D.

Exhibit AA

InsideBADGERSPORTS.com is the All-Access portal for the University of Wisconsin Athletics program. We are excited to offer this new media player which will provide fans an upgrade in sports listening and viewing for Badger Athletics.

For one season pass costing \$79.95, or a monthly pass of \$9.95, fans can sign-in to see exclusive video content as well as listen online to their favorite Badger team. Live audio streams will include all home and away football, men's basketball, women's basketball, and men's hockey games, and all the coaches' radio shows with Bret Bielema, Bo Ryan, and Mike Eaves.

The season or monthly pass will also include live video streamed events (as available) and all post game news conferences for football and men's basketball as well as football signing day. The Silverlight player features the latest technology for live and on-demand viewing.

There are also a number of free features available through insideBADGERSPORTS.com including archives of streamed games and regular Monday news conferences featuring coaches in all UW sports.

EXCLUSIVE CONTENT

- LIVE audio streaming of all football, men's basketball, women's basketball, and men's hockey and coaches shows for football, basketball, men's hockey
- LIVE video streaming of available, women's basketball, volleyball, wrestling, women's hockey and men's hockey games
- · Post-game news conferences for home football and men's basketball games
- · Behind the scenes access
- · Special Football Signing Day coverage

Other Content

- Weekly press conferences (live and archived)
- Volleyball audio streams (away games only)
- Game highlights and features
- Football daily practice reports (spring camp and preseason)
- Access to hundreds of archived video broadcasts
- Interviews with coaches and players
- Tours of facilities
- · Training tips by coaches

UNITED STATES DISTRICT COURT WESTERN DISTRICT OF WISCONSIN

WISCONSIN INTERSCHOLASTIC ATHLETIC ASSOCIATION, AMERICAN-HIFI, INC.

Plaintiffs,

Case No. 09-cv-0155

 \mathbb{V}_{\bullet}

GANNETT CO., INC., and WISCONSIN NEWSPAPER ASSOCIATION, INC.,

Defendants.

CERTIFICATE OF SERVICE

I hereby certify that on the 22nd day of December, 2009, I caused a copy of the **Addendum to Expert Report of James L. Hoyt, Ph.D.** to be served via email and hand delivery to the following:

Robert J. Dreps
Monica Santa Maria
GODFREY & KAHN, S.C.
1 East Main Street, Suite 500
Madison, WI 53703
rdreps@gklaw.com
msantamaria@gklaw.com

Dated this 22nd day of December, 2009.

/s/ Brenda L. Horn Brenda L. Horn

Exhibit AA

InsideBADGERSPORTS.com is the All-Access portal for the University of Wisconsin Athletics program. We are excited to offer this new media player which will provide fans an upgrade in sports listening and viewing for Badger Athletics.

For one season pass costing \$79.95, or a monthly pass of \$9.95, fans can sign-in to see exclusive video content as well as listen online to their favorite Badger team. Live audio streams will include all home and away football, men's basketball, women's basketball, and men's hockey games, and all the coaches' radio shows with Bret Bielema, Bo Ryan, and Mike Eaves.

The season or monthly pass will also include live video streamed events (as available) and all post game news conferences for football and men's basketball as well as football signing day. The Silverlight player features the latest technology for live and on-demand viewing.

There are also a number of free features available through insideBADGERSPORTS.com including archives of streamed games and regular Monday news conferences featuring coaches in all UW sports.

EXCLUSIVE CONTENT

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- Game highlights and features
- Football daily practice reports (spring camp and preseason)
- Access to hundreds of archived video broadcasts
- Interviews with coaches and players
- Tours of facilities
- · Training tips by coaches

UNITED STATES DISTRICT COURT WESTERN DISTRICT OF WISCONSIN

WISCONSIN INTERSCHOLASTIC)
ATHLETIC ASSOCIATION and)
AMERICAN-HIFI, INC.,)
77. J. 1400)
Plaintiffs,)
)
v.) Case No. 09-cv-0155
)
GANNETT CO., INC. and)
WISCONSIN NEWSPAPER)
ASSOCIATION, INC.,)
)
Defendants.)

MOTION FOR LEAVE TO FILE BRIEF OF AMICUS CURIAE

The National Federation of State High School Associations ("NFHS") moves for leave to file its contemporaneously submitted Brief of Amicus Curiae in support of the Wisconsin Interscholastic Athletic Association's ("WIAA") motion for summary judgment. Defendants Gannett Co., Inc. and Wisconsin Newspaper Association, Inc., have been advised of this motion and the NFHS's proposed Brief of Amicus Curiae and have refused to consent to its filing.

INTEREST OF AMICUS CURIAE

The NFHS is the national service and administrative organization of high school athletics. Founded in 1920, the NFHS is composed of one high school athletic or activities association, like the WIAA, in each of the fifty states and the District of Columbia. Approximately ninety percent of the high schools in the United States are members of state high school athletic or activities associations that are in turn members

The mission of the NFHS is to provide leadership and national coordination for the administration of interscholastic activities, including athletics. The NFHS works to enhance the educational experiences of high school students, by promoting the participation in high school athletic and extra-curricular activities. The objectives of the NFHS include the protection of interscholastic athletics and the development of solutions to problems related to them at the high school level.

Each of the NFHS's member organizations sponsor, fund, and organize state-wide championship events in various sports. These not-for-profit organizations operate on limited budgets and must maximize their revenue to ensure that there are state-wide competitions for each sport. Many associations contract with media companies to broadcast athletic contests over the air and internet, in part to raise revenue and in part to promote the value high school athletics have to students' educations. To maximize the value of these contracts, and ensure the optimum exposure for the largest number of event, associations find it necessary, as the WIAA does here, to sell exclusive licensing rights to media companies.

The NHFS has a substantial interest in ensuring that its members are free to enter into the types of contracts at issue here. It is able to provide unique insight into the value and role these types of contracts have to its members and to the students that rely on them to organize and promote high school athletics.

CONCLUSION

For these reasons the NFHS respectfully requests that this Court grant it leave to file its contemporaneously submitted brief of amicus curiae.

Respectfully submitted,

William E. Quirk

wquirk@polsinelli.com

Anthony W. Bonuchi

abonuchi@polsinelli.com

Polsinelli Shughart PC

Twelve Wyandotte Plaza

120 W. 12th Street

Kansas City, MO 64105

(816) 421-3355

Fax: (816) 374-0509

Attorneys for Amicus Curiae National Federation of State High School Associations

Ullum & Dich

CERTIFICATE OF SERVICE

I certify that on January 27, 2010, a copy of the foregoing was served electronically via ECF to:

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jskilton@perkinscoie.com

David L. Anstaett

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Jeff J. Bowen

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Madison, WI 53703

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Stevens Point, WI 54481-0228

Telephone: (715)344-0890 Facsimile: (715)344-1012

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Milwaukee, WI 53202

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Fax: (414) 224-9359

Attorney for the Plaintiffs

Wisconsin Interscholastic Athletic Association

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Monica Santa Maria
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One East Main Street, Suite 500
PO Box 2719
Madison WI 53701
608-284-2606
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STAFFORD ROSENBAUM LLP

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Attorneys for Arizona Interscholastic Association, Inc.

KELLY AND BERENS, PA

Justi Rae Miller 80 S. 8th St., IDS Tower Suite 3720 Minneapolis MN 554602 612-349-6171 Fax: 612-349-6416 Attorney for Interested Party Fox Sports Net North LLC

Attorneys for Amicus Curiae National
Federation of State High School Associations

6

UNITED STATES DISTRICT COURT WESTERN DISTRICT OF WISCONSIN

WISCONSIN INTERSCHOLASTIC)	
ATHLETIC ASSOCIATION and)	
AMERICAN-HIFI, INC.,)	
)	
Plaintiffs,)	
)	
v.	•)	Case No. 09-cv-0155
)	
GANNETT CO., INC. and)	
WISCONSIN NEWSPAPER)	
ASSOCIATION, INC.,)	
)	
Defendants.)	

BRIEF OF AMICUS CURIAE NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS

IN SUPPORT OF PLAINTIFFS' MOTION FOR SUMMARY JUDGMENT

William E. Quirk 24704
Anthony W. Bonuchi 57838
Polsinelli Shughart PC
Twelve Wyandotte Plaza
120 W. 12th Street
Kansas City, MO 64105
(816) 421-3355

Attorneys for Amicus Curiae National Federation of State High School Associations

INTEREST OF AMICUS CURIAE

The National Federation of State High School Associations ("NFHS") is the national service and administrative organization of high school athletics. Founded in 1920, the NFHS is composed of one high school athletic or activities association in each of the fifty states and the District of Columbia. Approximately 90 percent of the high schools in the United States are members of state high school athletic or activities associations that are in turn members of the NFHS.

The NFHS's mission is to provide leadership and national coordination for the administration of interscholastic activities, including athletics. The NFHS works to enhance the educational experiences of high school students through their participation in interscholastic athletics and activities. It strives to promote participation and sportsmanship in athletics, to develop good citizens through that participation, and to enrich the educational experience of students. The NFHS also seeks to protect the role that interscholastic athletics plays in education and to develop solutions to problems related to high school athletics.

The NFHS has a substantial interest in helping its member associations promote themselves, the activities they sponsor, as well as the educational value of interscholastic activities. To that end, the NFHS supports its member associations' right to enter into exclusive agreements with media companies to produce, license, and broadcast association-organized events on radio, television, and the internet. This not only helps promote the value of interscholastic athletics, it also creates revenue essential to funding

association-sponsored state championships in all sports. If individual state associations are not allowed to enter into and enforce these exclusive agreements, their ability to promote the benefits of interscholastic activities will be significantly diminished.

ARGUMENT

The Wisconsin Interscholastic Athletic Association ("WIAA") and other state athletic associations should be allowed to sell the licensing rights to the sporting events they organize and sponsor. Licensing agreements generate revenue that makes it possible for state high school athletic associations to organize and produce state-wide athletic competitions in all sports. This of course allows for the greatest amount of participation by students in interscholastic athletics, thus maximizing the value athletic competitions have to education. Licensing agreements also allow greater access to the games themselves, which promotes the important role interscholastic sports play in the education of high school students. The agreements also provide an important measure of control to ensure that student-athletes and their schools are shielded from some of the more unsavory commercial aspects that can accompany unrestricted broadcast rights.

The Wisconsin Newspaper Association ("Newspapers") and media conglomerate Gannett Co., Inc. ("Gannett") (collectively "defendants") argue that the WIAA's contracts violate the First Amendment's freedom of the press clause, the Fourteenth Amendment's equal protection clause, and the Copyright Act, 17 U.S.C. § 101, et seq. The NFHS will leave it to the parties to address the legal issues raised by these

arguments. This brief will instead focus on the practical reasons why contracts like those at issue here should be valid, and the consequences of holding otherwise.

1. A state high school athletic association's ability to sell exclusive licensing rights is vital to its ability to organize and promote interscholastic athletics, which themselves are invaluable components of students' educations.

State high school athletic associations throughout the country organize, govern and help promote interscholastic athletics as an important part of high school students' educational experience. One of the main functions of associations like the WIAA is to sponsor and organize state-wide athletic tournaments. Some sports are of course more popular than others and their tournaments are self-sustaining. But the championship contests and tournaments in most sports lose money and thus deplete the associations' resources. Because organizations like the WIAA are not-for-profit, the revenue they raise in connection with the most popular events is critical to their ability to survive and to organize events for all sports.

Increasingly, associations like the WIAA are trying to maximize revenue to support their mission by selling the licensing rights to high school basketball tournaments, football championships and other popular state-wide sporting events. Here, the WIAA has entered into multiple agreements granting exclusive production and licensing rights to various companies. It granted When We Were Young Productions ("WWWY") "the exclusive right to produce, sell and distribute all WIAA tournament series and championship events for all WIAA sports with the exception of existing contracts as of the date of this contract." Exhibit A to First Amended Complaint, Doc.

#7. At the time it executed the WWWY contract, the WIAA had already entered into an exclusive contract to Visual Image Photography ("VIP") to take photographs of the events it sponsors. That agreement states:

VIP shall be designated the "Official Photography Partner" of the WIAA for each year this Agreement is in force. The WIAA guarantees VIP "exclusivity" with regard to the sale of any products using images from Covered Events, whether captured by VIP or not. The WIAA agrees to work in VIP's best interest by denying media credentials to non-news media photographers who sell any products using any image of a Covered Event.

Exhibit C to Stipulation of Facts, Doc. #26.

Similarly, the WIAA has exclusive contracts with Fox Sports Net North, LLC to telecast state football championship games, and with two other local television companies ("Quincy") to broadcast the state boys and girls hockey and basketball championship games. Affidavit of James L. Hoyt, Doc.# 56 ¶ 20. Each of these agreements provides the media companies the exclusive right to disseminate their productions of the event over the air and the internet.

In his affidavit, Dr. James L. Hoyt states that in 2008, the WIAA received \$75,000 from Quincy for the rights to the state hockey and basketball tournaments for boys and girls, \$20,000 from Fox for the football state finals, and \$60,000 from WWWY for all of the other events. Hoyt Affidavit, Doc.# 56 ¶ 39. The WIAA also received \$80,000 from a sponsorship partner. *Id.* at ¶ 41. These funds are essential to the WIAA's goals of promoting and fostering interest and participation in interscholastic athletics. This is not some abstract goal. The valuable life lessons students learn about teamwork,

competition, and sportsmanship from participating in athletics are an important supplement to academics.

All student-athletes should have the same opportunity to participate in state-wide, end-of-the-season competitions, even if their talents or interests lie outside the most popular, self-sustaining sports. The WIAA, and its sister associations across the country, ensure that these opportunities are available by, among other things, obtaining corporate sponsors for their tournaments and selling exclusive licensing rights to third parties.

Without the revenue from the Fox, Quincy, and WWWY contracts, the WIAA would be hard-pressed to afford championship events for all sports. In 2008 less than half of the WIAA-organized tournaments paid for themselves. Baseball lost around \$109,000, softball lost about \$121,000, and track lost nearly \$200,000. Exhibit A to Affidavit of Douglas Chickering, Doc. #53. Sports like swimming (\$45,495), tennis (\$56,234), gymnastics (\$31,153), cross country (\$78,346), and golf (\$51,755) were all in the red as well. *Id.* All told, these nine sports accounted for approximately \$692,983 of the expenditures in the WIAA's 2008 budget. *Id.*

On the other hand, the more popular sports – basketball, wrestling, football, hockey, and soccer – generated \$2,546,874 in revenue. Of that amount, \$235,000 appears to have come directly from the licensing contracts with Fox, Quincy, WWWY and a related sponsor. Hoyt Affidavit, ¶¶ 39-41. While tournaments are not the WIAA's only sources of revenue and expenses, they make up a significant portion the WIAA's budget. Even though, viewed as a whole, the tournaments were profitable, the WIAA

itself still lost \$34,779 in 2008. Thus every source of revenue is vital to the WIAA's survival and to its ability to fulfill its mission of organizing and promoting education-based high school athletics.

The WIAA's experience mirrors that of other state associations throughout the country. Affidavit of Robert F. Kanaby, attached hereto as Exhibit A, \P 4. Although these associations strive to organize and promote championship contests in *all* sports, the reality is that some sports are far more popular than others. Id., \P 5. Without the ability to use revenue from popular sports to subsidize less-popular ones, high school sports as a whole, and American secondary education, will suffer. Id., \P 4-8.

Not only do the challenged licensing agreements make it possible for state associations like the WIAA to organize state-wide events in all sports, they also increase the public's access to these events, thereby highlighting and promoting the valuable role athletic competition plays in the lives of high school students. For example, as Dr. Hoyt explains, the WWWY was willing to broadcast *all* WIAA events over the internet. Hoyt Affidavit, ¶ 20. But neither the WWWY, nor any other media outlet, would invest the resources necessary to produce this internet content if they were not granted the exclusive licensing rights. *Id.* at ¶¶ 45-48. In fact, in 2004-2005, before the WWWY contract was executed, *no* WIAA events were available on the internet. In 2008-2009, after the WWWY contract was executed, *82 live contests* could be seen through internet streaming. *Id.* This, too, is consistent with the experience of state high school associations throughout the country. Kanaby Affidavit, ¶¶ 4, 8.

Allowing the WIAA and similar state associations to use exclusive licensing agreements to control video streaming not only helps them maintain and promote competitions in less-popular sports, but it serves a number of other important goals. Among these are:

- Avoiding commercial exploitation of student-athletes
- Avoiding any association between high-school sports and advertisements of inappropriate goods and services like gambling, alcohol or tobacco
- Avoiding any association between high-school sports and unvetted internet streamers, who may create an inferior product, or have a negative image in the community
- Avoiding confusion as to the source of internet-streamed games
- Reducing administrative and organizational costs for schools and athletic associations that would otherwise need to negotiate with and accommodate multiple internet streamers
- Giving internet streamers a financial interest in investing in their enterprise and doing a more professional job
- Avoid overcrowding and conflicts between internet streamers vying for limited physical space and resources in which to record and stream games—which might otherwise threaten the physical safety of spectators and student-athletes, disrupt the flow of games, and lead to streaming from less-than-desirable vantage points

Granting defendants the unrestricted access they now demand threatens every one of these important goals. From the perspective of the American high school community, this case concerns not just video streaming, but also the ability of educational institutions to protect young people. The WIAA's exclusive licensing agreements foster this latter, paramount goal, and the Court should not invalidate them.

2. The WIAA's exclusive contracts do not restrict defendants' ability to report on WIAA events.

The Newspapers and Gannett specifically complain that the WIAA's exclusive licensing agreements restrict their ability to "report" on WIAA-sponsored events. Essentially, they argue that because these contracts force them to obtain licenses from third parties to stream video over the internet or sell photographs taken at the events, the freedom of the press is somehow being hindered. But the WIAA's contracts do no such thing.

To begin with, the exclusive licensing agreements do not in any way prevent the defendants from "reporting" on WIAA-sponsored events. They only limit the unlicensed broadcast of more than two minutes of a game at a time. Reporters and journalists are free to show clips of the game, write stories, interview coaches and players, summarize and disseminate statistics, and perform all the other tasks that true reporting entails. The same is true of photographs taken at the games. Defendants are free to publish or otherwise disseminate the photos they take as part of their coverage so long as they refrain from separately selling the pictures.

The only limitations defendants face arise when they attempt to go beyond their traditional province of reporting. If media companies like defendants now wish not just to report on, but to actually broadcast high-school events over the airwaves or the internet, they admittedly must obtain a license from WWWY. They must similarly seek a license from VIP if they wish to separately profit from selling any of the photographs they take. But these are hardly restrictions on defendants' traditional free press roles. And even if they somehow were, any restrictions are inconsequential. They are all the more inconsequential when weighed against the benefit of the contracts to the state athletic associations and to high school sports as a whole.

There is nothing new or offensive about exclusive licensing contracts in this context. See, e.g., Home Box Office, Inc. v. F.C.C., 587 F.2d 1248, 1253 (D.C. Cir. 1978) (upholding Federal Communications Commission rule allowing exclusive licensing contracts in television). "Contracts conferring the exclusive right to broadcast sporting events and artistic or theatrical performances are commonplace." Id. While exclusive contracts can implicate the antitrust laws (an argument defendants do not make here), they are nevertheless seen as reasonable where "they permit the creation and transfer of exclusive rights that reasonably serve to maintain or enhance the value of an artistic or intellectual product." Id. (citing United States v. Paramount Pictures, Inc., 66 F.Supp. 323 (S.D.N.Y. 1946), modified, 334 U.S. 131 (1948)).

State high school associations and similar athletic associations "exist primarily to enhance the contribution made by amateur athletic competition to the process of ...

education," not to realize the maximum return on it as an entertainment commodity. See Association for Intercollegiate Athletics for Women v. National Collegiate Athletic Ass'n, 558 F.Supp. 487, 494 (D.C.D.C. 1983). As the Supreme Court has recognized, high-school athletic programs play an "integral" role in the educational mission of American secondary schools. See Brentwood Acad. v. Tenn. Secondary Sch. Athletic Ass'n, 531, U.S. 288, 289 (2001). The WIAA and other state organizations should be allowed to continue using exclusive licensing arrangements to promote and protect the secondary school athletic experiences of all student-athletes.

CONCLUSION

The contracts the WIAA entered into with Fox, Quincy, and WWWY for the exclusive rights to all of the competitions it organizes are valid and do not offend the freedom of the press. The minimal intrusion on defendants' ability to also profit from videos and photographs generated by the events is insignificant when compared to the crucial role played by the revenue these licensing agreements provide for promoting and protecting high school athletics. If state associations like the WIAA are to effectively promote interscholastic athletics for all sports and all student-athletes, they as a practical matter must be allowed to raise revenue by entering into exclusive contracts like those at issue here. These same contracts have important additional benefits both in expanding public access to contests and protecting student-athletes and their schools from exploitation and other adverse influences. The NFHS urges the Court to grant the WIAA's motion for summary judgment.

Respectfully submitted,

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I certify that on January 27, 2010, a copy of the foregoing was served electronically via ECF to:

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UNITED STATES DISTRICT COURT WESTERN DISTRICT OF WISCONSIN

WISCONSIN INTERSCHOLASTIC ATHLETIC ASSOCIATION and AMERICAN-HIFI, INC.,)))
Plaintiffs,)
v.) Case No. 09-cv-0155
GANNETT CO., INC. and WISCONSIN NEWSPAPER ASSOCIATION, INC.,))))
Defendants.	j

AFFIDAVIT OF ROBERT F. KANABY

The undersigned, Robert F. Kanaby, of lawful age, being first duly sworn, deposes and says:

- 1. I am the Executive Director of the National Federation of State High School Associations ("NFHS"). The following facts are based on my personal knowledge, and are true to the best of my knowledge, information and belief.
- 2. The NFHS is composed of one high school athletic or activities association in each of the fifty states and the District of Columbia. The plaintiff Wisconsin Interscholastic Athletic Association ("WIAA") is the NFHS member for the State of Wisconsin. As part of my duties as NFHS Executive Director, I have general familiarity with the budgets and practices of the state associations that are NFHS members.

- 3. I have reviewed the Expert Report and Addendum of James L. Hoyt, Ph.D. filed in the above action.
- 4. Dr. Hoyt's observations concerning the experience of the WIAA with high school sports comport generally with my understanding of the experience of our other state association members. Those other state association members, like the WIAA, typically organize, conduct and promote state championship contests in a wide variety of high school sports and activities, and perform other educational functions for the benefit of the young people of their respective states.
- 5. It is common throughout the country for some of the more popular high school sports, like basketball, football, hockey, soccer and wrestling, to either be self-sustaining or generate positive revenue in their championship events. Most other high school sports, however, typically are not sufficiently popular to cover the costs incurred by state associations in organizing and conducting championship events in those sports.
- 6. In my experience, it is also common for a significant portion of the revenues of NFHS state association members to come from the more popular sports so that, like the WIAA, those associations have a significant interest in protecting the economic value of those more popular championship events in order to carry out their mission of organizing and promoting championship events for students in as many sports and activities as possible.

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- 7. It is common for state associations to enter into media contracts in which they sell the licensing rights to broadcasts of sporting events. To maximize their value, associations often grant exclusive licensing rights in these contracts.
- 8. The revenue state associations derive from these contracts is critical to their ability to organize championship events in less popular sports. Exclusive contracts also help state associations promote the educational benefits of high school athletics by exposing the events to a broader audience.

Further affiant saith not.

Robert F. Kanaby, Executive Director National Federation of State High School Associations

STATE OF Indiana)
COUNTY OF Marion)ss:)
Subscribed and sworn to	to before me this 27 day of Vanuary,
2010.	
	Mautrie Mercurent ber
	Notary Public

My commission expires: 6-i2-2011

UNITED STATES DISTRICT COURT WESTERN DISTRICT OF WISCONSIN

WISCONSIN INTERSCHOLASTIC ATHLETIC ASSOCIATION and AMERICAN-HIFI, INC.

Plaintiffs,

Case No. 09-cy-0155

v.

GANNETT CO., INC. and WISCONSIN NEWSPAPER ASSOCIATION, INC.,

Defendants.

MOTION FOR PROTECTIVE ORDER UNDER FED. R. CIV. 26(c)

Plaintiffs Wisconsin Interscholastic Athletic Association and American Hi-Fi, Inc., d/b/a When We Were Young Productions ("WWWY"), and Defendants Gannett Co., Inc. ("Gannett") and the Wisconsin Newspaper Association ("WNA") (collectively referred to as "Parties"), hereby move this Court for entry of the Stipulated Protective Order attached as Exhibit 1 to this motion. The Parties have requested the production of confidential financial information that, if produced without restriction, could cause substantial commercial harm to each party. The Parties believe that the attached Stipulated Protective Order strikes an appropriate balance between protecting their confidential information and protecting the public interest in an open and accessible judicial system.

Dated this 11th day of February, 2010.

Respectfully submitted,

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Attorneys for Plaintiff Wisconsin Interscholastic Athletic Association Dated this 11th day of February, 2010.

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UNITED STATES DISTRICT COURT WESTERN DISTRICT OF WISCONSIN

WISCONSIN INTERSCHOLASTIC ATHLETIC ASSOCIATION and AMERICAN-HIFI, INC.

Plaintiffs,

Case No. 09-cy-0155

v.

GANNETT CO., INC. and WISCONSIN NEWSPAPER ASSOCIATION, INC.,

Defendants.

STIPULATED PROTECTIVE ORDER

WHEREAS, Plaintiffs Wisconsin Interscholastic Athletic Association and American Hi-Fi, Inc., d/b/a When We Were Young Productions ("WWWY"), and Defendants Gannett Co., Inc. ("Gannett") and the Wisconsin Newspaper Association ("WNA") (collectively referred to as "Parties") agree that certain information discoverable in this action consists of Confidential Information (as defined in Paragraph 3 of this Stipulated Protective Order);

WHEREAS, the Parties believe that public disclosure of the Confidential information could cause harms to the Parties; and

WHEREAS, the Parties believe that good cause exists for the entry of this Stipulated Protective Order, which is narrowly tailored so as to protect the public interest in an open judicial system while simultaneously protecting the Confidential information of the Parties and non-parties.

By reason of the foregoing, the Parties, by their respective counsel, jointly request that this Court enter the following Stipulated Protective Order regarding discovery in this action.

- 1. The term "Document" shall refer to any item set out in Federal Rule of Civil Procedure 34(a)(A) or (B), and includes any such items produced, disclosed or filed in this matter, whether pursuant to a discovery request, the Federal Rules of Civil Procedure, by agreement, or otherwise, and includes, without limitation, interrogatory answers, responses to requests for admissions, responses to requests for production of documents, deposition transcripts and exhibits, pleadings, motions, affidavits, affirmations, and briefs, or any portion of the above
- 2. The term "Confidential Information" shall mean material or information not known to the general public that is produced in this litigation by a Producing Party to any other Party ("Receiving Party"), that constitutes or contains trade secrets or other confidential research, development, or commercial information, know-how, proprietary data, financial information, marketing strategies, or other non-publicly available information within the meaning of Federal Rule of Civil Procedure 26(c)(1)G).
- 3. The Party or non-party producing a Document or information in this litigation ("Producing Party") may designate as Confidential, in whole or in part, any Document that constitutes or contains Confidential Information. Designation of a Document as "Confidential" shall be by stamping, labeling or otherwise applying the appropriate designation to the Document. A party shall have the right, subject to the terms of this Stipulated Protective Order, to challenge the designation of any Document or information, or part thereof, as "Confidential."

- 4. Confidential Information not reduced to documentary, tangible, or physical form that cannot be conveniently designated pursuant to Paragraph 4 shall be designated by the Producing Party by informing the receiving party in writing of the designation.
- 5. If depositions are conducted that involve Confidential Information, such information may be designated as "Confidential" by an appropriate statement at the time the information is provided at the deposition or before the close of the deposition, and the deposed party shall have up to fourteen calendar days after receipt of the transcript to designate any protected testimony as "Confidential." Transcripts containing Confidential Information must be marked with the legend "Confidential" on either the cover of the transcript or the individual pages containing such Confidential Information as instructed by the party or nonparty offering or sponsoring the witness or presenting the testimony.
- 6. "Qualified Person," as used herein, is limited to the following categories of persons:
 - a. officers, directors and employees of the Receiving Party to whom disclosure is reasonably necessary for this litigation, who have been provided a copy of this Stipulated Protective Order and agree to be bound by its terms;
 - b. any attorney appearing of record or of counsel in this case, together with other attorneys at the firm(s) of counsel of record, and their employees including paralegal, secretarial, photocopying, document imaging, data entry, data processing, drafting, graphics, stenographic reporting, or clerical personnel;
 - c. any independent technical or economic expert, independent consultant, or independent testing personnel and their employees serving any attorneys identified in Paragraph 6 for the purposes of this case;
 - d. any independent paralegal, secretarial, photocopying, document imaging, data entry, data processing, drafting, graphics, stenographic reporting or clerical personnel serving such attorneys identified in Paragraph 6 for the purposes of this case;
 - e. any court reporter or videographer employed or retained by a party for the purposes of transcribing and/or recording a deposition or inspection of premises;

- f. the Court and its personnel;
- g. any person indicated on the face of a document as having written or received such document during the course of his or her employment or consultancy; and, at trial or deposition, any current or former employee of the Producing Party ("Witness"), provided that the Producing Party's document was written or received prior to or during the Witness's period of employment;
- h. any person who received the document or information at issue prior to the entry of this Stipulated Protective Order;
- i. subject to the conditions set forth in Paragraphs 4 and 5, any non-technical jury, document management service, or trial consulting services retained by any attorneys identified in Paragraph (6);
- j. in-house attorneys for the parties (and their support and clerical staff, including paralegals).
- 7. No other person shall become a Qualified Person without prior leave of Court or prior written consent of the Producing Party. Confidential Information may be disclosed and copies may be provided by the Receiving Party only to Qualified Persons as specified in Paragraph (6), shall be retained by them in strictest confidence, shall only be used for the purpose prosecuting, defending or attempting to settle this action (including appeals), and shall not be disclosed to any person not specified in Paragraph (6) without the prior written consent of the Producing Party or of the Court. All Confidential Information obtained by a Qualified Person shall be carefully maintained so as to preclude access by anyone who is not a Qualified Person.
- 8. In the event that counsel for a party deems it necessary to disclose information designated as "Confidential" to a person not specified in Paragraph 6 as a Qualified Person to whom Confidential Information may be disclosed, said counsel shall notify counsel for the Producing Party in writing, of (i) the information or documents to be disclosed, (ii) the person(s) to whom such disclosure is to be made, and (iii) the reason(s) for such disclosure, and the parties shall attempt in good faith to reach agreement regarding such disclosure. If

agreement cannot be reached, the party wishing to disclose the Confidential Information may file an appropriate motion with the Court.

- 9. Should any Confidential Information be disclosed, through inadvertence or otherwise, to any person not authorized pursuant to this Stipulated Protective Order, the disclosing party shall (i) use its best efforts to obtain the return of any such Confidential Information; (ii) promptly inform such person of all provisions of this Protective Order; (iii) identify such person immediately in writing to the Producing Party.
- a specific Document as containing Confidential Information shall not be deemed a waiver in whole or in part of the party's claim of confidentiality as to such Documents or information.

 Upon notice of such failure to designate, all receiving parties shall cooperate to restore the confidentiality of the inadvertently disclosed Documents or information and of subsequently produced notes or summaries containing the inadvertently information.
- 11. The Confidential Information may not be used in, or form the basis for, any other proceeding or litigation. However, if such information is obtained independently it may be used for any reason in any future proceeding or litigation. The Confidential Information may be disclosed in response to a lawful subpoena issued in connection with grand jury proceedings, other criminal proceedings, or in civil proceedings, but only if notice and a copy of the subpoena are provided to the party that designated the document or information as Confidential by facsimile transmission, email or overnight mail within 7 calendar days of receiving the subpoena or at least 5 business days in advance of such anticipated disclosure or, if the subpoena requires production of such documents in less than five days, as soon as reasonably possible. Should the person seeking access to the Confidential Information take action against

the party receiving the subpoena to enforce such a subpoena, demand or other legal process, such party shall respond, at a minimum, by setting forth the existence of this Stipulated Protective Order. Nothing herein shall be construed as requiring such party to challenge or appeal any order requiring production of the Confidential Information, or to subject itself to any penalties for noncompliance with any legal process or order, or to seek any relief from this Court.

12. All documents of any nature that are filed with the Court for any purpose and that contain the Confidential Information shall be filed in accordance with the Western District of Wisconsin Administrative Procedure IX.B. The front page of each such document shall bear a statement substantially similar to the following:

FILED UNDER SEAL

- from using or continuing to use any information that, at the time of the disclosure, is publicly known through no unauthorized act of the party, or (b) as preventing the parties from using or continuing to use any information known or used by it if such information was lawfully obtained prior to the entry of this Stipulated Protective Order or other than through discovery of the producing party. Should a dispute arise as to any specific information or material, the burden shall be upon the party seeking to use such information that such Document or information is or was publicly known or was lawfully obtained prior to the entry of this Stipulated Protective Order or other than through discovery of the Producing Party.
- 14. On final determination of this litigation (including appeals), the parties and other persons subject to the terms hereof shall, within sixty (60) calendar days, assemble and destroy or return to the producing party all Confidential Information, all copies, summaries and abstracts thereof and all other materials, memoranda or documents constituting or containing the Confidential Information. If destroyed, such party or person shall certify to the Producing Party,

within sixty (60) calendar days, the destruction of all such materials. Outside counsel for each party may retain archives of one set of the Confidential Information.

- 15. This Stipulated Protective Order shall survive the termination of this litigation.
- 16. Nothing in this Stipulated Protective Order shall prevent any party from applying to the Court for additional protection, for example, for particularly highly sensitive materials or information, such as technical, planning, manufacturing, marketing, and research and development materials and information relating to product development, that any party believes require such protection.
- 17. Nothing in this Stipulated Protective Order shall be construed as a waiver by any party of its right to object to the subject matter of any request for production of documents in this action, nor as a waiver by any other party of the first party's obligation to make proper response to discovery requests.
- 18. Nothing in this Stipulated Protective Order shall be construed as a waiver by any party of any objections that might be raised as to admissibility at trial of any evidentiary materials.
- 19. It is not the intent of the parties, nor of the Court, that an attorney or law firm that acquires knowledge of, or is given access to, the Confidential Information pursuant to this Stipulated Protective Order should thereby be disqualified from other representations adverse to any Producing Party solely because of such knowledge or access.
- 20. Any Party may, on motion for good cause shown, seek a modification of this Stipulated Protective Order. No modification of this Stipulated Protective Order that adversely affects the protection of any document produced or given by a non-party in this case

shall be made without giving to that non-party appropriate notice and opportunity to be heard by the Court.

21. The terms of this Stipulated Protective Order shall go into effect only upon the entry by the Court of the proposed Stipulated Protective Order, filed on this day.

Dated this 11TH day of February, 2010.

Respectfully submitted,

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American-HiFi, Inc.

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Attorneys for Plaintiff Wisconsin Interscholastic Athletic Association Dated this 11TH day of February, 2010.

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UNITED STATES DISTRICT COURT WESTERN DISTRICT OF WISCONSIN

WISCONSIN INTERSCHOLASTIC ATHLETIC ASSOCIATION and AMERICAN-HIFI, INC.

Plaintiffs,

Case No. 09-cy-0155

v.

GANNETT CO., INC. and WISCONSIN NEWSPAPER ASSOCIATION, INC.,

Defendants.

PLAINTIFFS' MOTION TO STRIKE PORTIONS OF DEFENDANTS' AFFIDAVITS SUPPORTING DEFENDANTS' MOTION FOR SUMMARY JUDGMENT

Plaintiffs, Wisconsin Interscholastic Athletic Association ("WIAA") and American HiFi, Inc., d/b/a When We Were Young Productions ("WWWY"), by their below referenced attorneys, move the Court, pursuant to Rule 56 of the Federal Rules of Civil Procedure, to strike portions of the Affidavits submitted by Defendants in support of Defendants' Motion for Summary Judgment. The grounds for the Motion to Strike are stated below with respect to each paragraph sought to be stricken. Plaintiffs also submit a Memorandum of Law in Support of Motion to Strike identifying legal authority supporting the grounds for striking the specific affidavit provisions.

- Plaintiffs move to strike the following portions of the Affidavit of **DANNY L.** FLANNERY ("Flannery") dated January 21, 2010 (Dkt No. 41):
 - a. The following statements in paragraph 6, on the grounds that there is no foundation establishing Flannery's personal knowledge of such statements: "While streaming of news events has become a matter of routine for ... other so-called traditional

newspapers over the past year...," and that "Other news organizations, mostly those in television, have done streaming over the Internet with regularity since the early 2000s."

- b. The following statement in paragraph 11, on the grounds that it is a self-serving and conclusory statement: "I have reviewed the definition of 'live play-by-play' in the Media Guide and am unable to determine what standard WIAA would apply to determine whether a blog includes 'all or a significant number of plays/events occurring sequentially during a game/event.""
- c. The entirety of paragraph 12, on the grounds that the statements are conclusory and there is no foundation establishing Flannery's personal knowledge of such statements.
- d. The entirety of paragraph 13, on the grounds that the statements are speculative, conclusory, self-serving and improper opinion.
- e. The entirety of paragraph 19, on the grounds that the statements are speculative, conclusory, self-serving and improper opinion, and there is no foundation establishing Flannery's personal knowledge of such statements.
- f. The following statements in paragraph 20, on the grounds that the statements are speculative and improper opinion: "[a] competing media entity...would likely not have been able to produce a transmission of equal interest to high school sports fans;" and "his contributions were expert."
- g. The following statement in paragraph 21, on the grounds that it is speculative, conclusory, and self-serving: "if we are able to Livestream WIAA-sponsored playoff games on equal terms."

- h. The following statement in paragraph 21, on the grounds that there is no foundation establishing Flannery's personal knowledge of the statement: "more people are available at that point."
- i. The following statement in paragraph 26, on the grounds that it is impermissible hearsay: "we have...heard how appreciative people are about our efforts and how it gives them an opportunity to connect with their families and alma maters in a way that is not available to them anywhere else."
- j. The following statements and/or paragraphs on the grounds that Defendants failed to disclose this evidence to Plaintiffs in response to Plaintiffs' discovery requests, although it would have been responsive thereto:
 - i. Paragraph 9: "Since the addition of Mogulus/Livestream to our coverage capabilities, we have streamed high school football and basketball games..."; "Since September 2009, we have used Mogulus/Livestream to produce two weekly programs: 'Varsity Roundtable' (which discusses high school sports)..."; and "As for high school football, *The Post-Crescent* carried one regular season game each week in the 2009 season on www/postcrescent.com."
 - ii. The entirety of paragraphs 16, 17, 18, 20, 23, and 25.
- Plaintiffs move to strike the following portions of the Affidavit of **DAVID** SCHMIDT ("Schmidt") dated January 22, 2010 (Dkt. No. 43):
 - a. The following statement in paragraph 6 on the grounds that there is no foundation establishing Schmidt's personal knowledge of such statements beyond the Ashwaubenon, Waukesha and Appleton school districts: "typically in Ashwaubenon and

beyond, neither the student athletes nor their coaches are required to make up the missed classroom hours."

- b. The following statement in paragraph 8, on the grounds that there is no foundation establish Schmidt's personal knowledge of such statements beyond the Ashwaubenon, Waukesha and Appleton school districts: "Ashwaubenon's attendance policy is consistent with other school districts' policies regarding excused absences to attend interscholastic events."
- c. The following statements in paragraph 9, on the grounds that there is no foundation establishing Schmidt's personal knowledge of such statements beyond the Ashwaubenon, Waukesha and Appleton school districts:

Not only do school districts excuse students from class, in appropriate circumstances, the school district may even expend funds to transport student-fans to travel to state tournament games to support their classmates. Although students most often pay for the bus transportation, supervisory personnel are paid by the school district to ensure appropriate behavior and safety of the students involved.

- d. The following statement in paragraph 11, on the grounds that it is impermissible hearsay and there is no foundation establishing Schmidt's personal knowledge of such statements: "some districts have raised community donations (over \$500,000) to put in synthetic football field turf. DC Everest, Kimberly and the Arrowhead School District are the latest to install this versatile surface."
- e. The following statements in paragraph 15, on the grounds that there is no foundation establishing Schmidt's personal knowledge of such statements beyond the Ashwaubenon, Waukesha and Appleton school districts: "Most school districts have student activity fees that support athletics and other student activities," and "there exists a

wide range of practices in Wisconsin school districts related to [sic] extent and amount of fee collection in school districts."

- f. The following statement in paragraph 16, on the grounds that there is no foundation establishing Schmidt's personal knowledge of such statements beyond the Ashwaubenon, Waukesha and Appleton school districts: "Most districts...have booster groups that supplement funding for sports."
- Plaintiffs move to strike the following portions of the Affidavit of JOEL
 CHRISTOPHER ("Christopher") dated January 21, 2010 (Dkt. No. 36):
 - a. The following statements in paragraph 7, on the grounds that they are impermissible hearsay: "As with Livestream productions, reader response to Coverit Live conversations has been overwhelmingly positive. People enjoy the real-time information gathering and interaction with our staff and each other, and they make a point of telling us so."
 - b. The following statement in paragraph 20, on the grounds that there is no foundation establishing Christopher's personal knowledge of such statements: "the majority of press boxes are large enough to accommodate more than one crew engaged in Internet streaming."
 - c. Paragraphs 4-11, and 13-26, on the grounds that Defendants failed to disclose this evidence to Plaintiffs in response to Plaintiffs' discovery requests, although it would have been responsive thereto.
- 4. Plaintiffs move to strike the following portions of the Affidavit of **JOHN W. DYE** ("Dye") dated January 22, 2010 (Dkt. No. 39):

- a. The following statement in paragraph 14, on the grounds that it is conclusory and self-serving: "The *Green Bay Press-Gazette* does not seek in this action to establish or benefit from an unnatural monopoly on access to reporting and commenting on public events. We seek only a level playing field."
- b. The following statement in paragraph 15, on the grounds that it is speculative, conclusory and self-serving: "using an Internet streaming platform technology called Livestream, is likely to expand the *Green Bay Press Gazette*'s audience."
- c. The following statement in paragraph 17, on the grounds that it is speculative, conclusory and self-serving: "a fee of \$250 per event is an excessive fee."
- d. The following statement in paragraph 20, on the grounds that it is speculative, conclusory and self-serving: "the *Green Bay Press Gazette* has no interest in seeking exclusive rights to cover any event using any technology."
- e. Paragraphs 6, 10, and 15-19, on the grounds that Defendants failed to disclose this evidence to Plaintiffs in response to Plaintiffs' discovery requests, although it would have been responsive thereto.

WHEREFORE, for the reasons stated above, Plaintiffs respectfully request that the above-referenced portions of the Affidavits submitted by Defendants in support of Defendants' Motion for Summary Judgment be stricken from the record.

Dated this 12th day of February, 2010.

Respectfully submitted,

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IN THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF WISCONSIN

WISCONSIN INTERSCHOLASTIC ATHLETIC ASSOCIATION and AMERICAN HI-FI, INC,

Plaintiffs,

Case No.: 09-CV-155-SLC

v.

GANNETT CO., INC. and WISCONSIN NEWSPAPER ASSOCIATION, INC.,

Defendants.

SUPPLEMENTAL PROPOSED FINDINGS OF FACT IN SUPPORT OF DEFENDANTS' MOTION FOR SUMMARY JUDGMENT ON THEIR COUNTERCLAIM

Gannett Company, Inc. and Wisconsin Newspaper Association, Inc. (collectively, "Defendants"), by and through their counsel, Godfrey & Kahn, S.C., submit the following Supplemental Proposed Findings of Fact in support of Defendants' Motion for Summary Judgment on Their Counterclaim.

- 1. The expenses public schools incur to support WIAA-recognized teams and to participate in, and host, regular season and tournament events are paid for from the school district's budget or from donations or fund raising efforts. Affidavit of David Schmidt, Jan. 22, 2010 (Dkt. # 43) ("Schmidt Aff."), ¶¶ 11, 14, 16.
- 2. Many communities are deeply invested in their local high school's athletic programs and teams. *See* Schmidt Aff., ¶¶ 10-12, 16; Second Affidavit of Matthew P. Veldran, Feb. 12, 2010 (filed herewith) ("Second Veldran Aff."), ¶ 7, Ex. B at 16 (WIAA editorial).

- 3. The WIAA publishes an official publication called the WIAA Bulletin. *See* Affidavit of Todd. C. Clark, Jan. 19, 2010 (Dkt. # 54) ("Clark Aff."), ¶ 2 (Clark's job responsibilities as WIAA Communications Director include production and supervision of the Bulletin).
- 4. The March 27, 2009 edition of the WIAA Bulletin contained an editorial about emotions and excitement generated by WIAA tournaments. *See* Second Veldran Aff. ¶ 7, Ex. B at 16. The editorial stated in part:

We can almost set our calendars to those dates each year, and sometimes we can even set our clocks to that time of year – tournament time.

For high school sports and all those involved with them, they are the times of the year excitement and emotions reach their peak. It's those moments in life that provide the unforgettable experiences for all interested in interscholastic athletics.

. . .

Yet all the spoils are not spent on the visitors. The statement of a player whose team had just been defeated in the State Championship final conveyed this. Despite a bitter loss, he stated he wouldn't change the experience of playing in the State Tournament for anything.

How about the community that came out in full force to support its hometown heroes. A school with an enrollment of 86 sold over 1,200 tickets for the championship final session. It's hard to believe that could even be possible when that school's community itself has a population of 998 according to its Web site. That section of fans was a sea of colors. This type of support gives credence to the cliché "last one out of town, turn off the lights."

The interest and excitement of WIAA State Tournaments extend beyond the four walls of the schools competing or any city boundaries. They are events for the entire state to embrace and witness the quality of educational experiences provided by school systems throughout our state.

Id.

- 5. A community's support for their local high school's interscholastic athletic teams and program can be seen in the community's fund raising efforts to renovate school athletic facilities; opposition to proposed program reductions; and in the community's attendance at local games or away games involving their local teams. Schmidt Aff., ¶¶ 10-12, 16; Second Veldran Aff., ¶¶ 7, Ex. B at 16 (WIAA editorial).
- 6. High school athletics are an integral part of student life and culture for both the participating athletes and their non-participating schoolmates. Schmidt Aff., ¶¶ 5-9.
- 7. In recognition of the fact that interscholastic athletic events are school events, school districts may excuse both the athletes and coaches, and in appropriate circumstances, non-participating schoolmates, from classroom attendance so they may attend the competitions.

 Schmidt Aff., ¶¶ 6-9.
- 8. Allowing student fans to display their support for their classmates and school in athletic competition provides important lessons for those students. Schmidt Aff., ¶ 7.
- 9. WIAA treats interscholastic athletics as part of the "total educational process." Declaration of Autumn N. Nero, Jan. 22, 2010 (Dkt. #52) ("Nero Decl."), Ex. 2 at 14. Art.II, Sect. 1, ¶ B.
 - 10. It is WIAA's position that:

The integrity and purpose of education-based athletics should not be compromised by outside influences that choose to impose their self-interests on interscholastic programs.

Second Veldran Aff., ¶ 7, Ex. A at 16.

11. In 2008, WIAA received rights fees and other revenue associated with its exclusive broadcast contracts from three sources: WWWY, Quincy Newspapers, Inc. ("QNI") and Fox

Sport Network Wisconsin ("Fox"). Affidavit of Douglas Chickering, Jan. 21, 2010 (Dkt. # 53) ("Chickering Aff."), ¶¶ 9, 12, 23.

- 12. The 2008 revenue the WIAA attributes to WWWY was of two types: a \$60,000 rights fee and some unspecified portion of an \$80,000 payment from a sponsorship partner. Chickering Aff., ¶ 23; Clark Aff., ¶ 8, 10.
- 13. During the 2007-08 academic year, the WIAA recorded \$6,202,963 in tournament revenue and \$7,177,155 in total operating revenue. Chickering Aff., ¶ 5. Thus, the WIAA's tournament revenue accounted for 86% of its total operating revenue.
- 14. The WIAA's tournament revenues come primarily from ticket sales. Chickering Aff., ¶ 5.
- 15. The table below compares the percentage of WIAA's 2007-08 tournament revenue and total revenue from WWWY (counting the entire \$80,000 sponsorship payment) against all 2008 revenues from the WIAA's exclusive contract and sponsorship partners combined.

	Percentage of WIAA's 2008 Tournament Revenue of \$6,202,693	Percentage of WIAA's 2008 Total Revenue of \$7,177,115
WWWY \$60,000 rights fee	1.0%	.8%
WWWY \$140,000 total payment	2.3%	2.0%
All exclusive broadcast contract partners combined: \$235,000 WWWY \$140,000 QNI \$75,000 Fox \$20,000	3.8%	3.3%

Chickering Aff., ¶¶ 5, 9, 12, 23; Clark. Aff., ¶ 10.

16. The \$60,000 rights fee WWWY paid the WIAA (on July 31, 2009) for its 2008 exclusive rights was not calculated by the formula in Section V of the WIAA's contract with

- WWWY. Second Declaration of Monica Santa Maria in Support of Defendants' Motion for Summary Judgment on Their Counterclaim, Feb. 12, 2010 (filed herewith) ("Second Santa Maria Decl."), Ex. A at 7 (Interrog. No. 4 and Resp. to Interrog. No. 4).
- 17. The \$60,000 rights fee was "orally agreed to by WWWY and WIAA prior to payment" and reportedly represents 1/6 of WWWY distribution revenue from Fox Sports Net and Charter Communications Op., LLC. Second Santa Maria Decl., Ex. A at 7 (Interrog. No. 4 and Resp. to Interrog. No.4).
- 18. The plaintiffs have not identified any written guidelines or factors either entity uses to determine whether to grant any permission, enforce a policy or determine a fee structure with respect to video transmissions of tournament events. *See* Stipulation of Background Facts (Dkt. #26) ("Jt. Stip."), Ex. B (2009-10 Media Guide); Clark Aff., ¶¶ 14-16.
- 19. The current fee structure in place, \$250 for a single camera Internet stream and \$1250 for a multi-camera Internet stream, was determined without reference to any WIAA guidelines. *See* Clark Aff., ¶¶ 15,16; Affidavit of Tim Eichorst, Jan. 15, 2010 (Dkt. #55) ("Eichorst Aff."), ¶¶ 37-39.
- 20. WWWY, the private company that benefits from the imposition of such rights fees, participated in determining how much to charge. Clark Aff., ¶ 14-16; Eichorst Aff., ¶¶ 37-39.
- 21. The WIAA has not provided any rationale or justification for requiring media companies to surrender a master copy of their work product, and the right to sell that work, to WWWY or for requiring them to surrender 80% of the resulting sales revenue. *See* Clark Aff., ¶ 13-16 (describing process and conclusions regarding appropriate structure of affiliate program for television stations, web sites and other media outlets or production companies); Affidavit of John W. Dye, Jan. 22, 2010 (Dkt. #39) ("Dye Aff."), Ex. B (WWWY's demands).

- 22. In 2005, WWWY sought to sign affiliate agreements with public access channels. Eichorst Aff., ¶ 26; Declaration of Mary Bennin Cardona, Feb. 9, 2010 (filed herewith) ("Cardona Decl."), ¶¶ 4-5.
- 23. According to the President of WWWY, the affiliate program "would allow the PEG [public access] channels to continue to do what they were doing, which was filming WIAA events and carrying them on their channels." Eichorst Aff., ¶ 26.
- 24. The Board of Directors of Wisconsin Association of PEG Channels ("WAPC") unanimously voted in 2005 to not endorse WWWY's affiliate agreement for local access channels. Cardona Decl., ¶ 7.
- 25. The board concluded that the contract was "fundamentally flawed, as it asks publicly-funded facilities to use [their] resources for private gain." Cardona Decl., ¶ 7; Cardona Decl., Ex. C.
- 26. The WAPC board recognized that opposition to the affiliate agreement "means that many public, education and government access channels will choose not to produce" WIAA-sponsored regional and sectional games. *See* Cardona Decl., Ex. C at 2.
- 27. A public access channel that does not sign the agreement is not permitted to produce games covered by WWWY's exclusive rights contract. Cardona Decl., ¶ 5; *see also* Eichorst Aff., ¶¶ 25-26.
- 28. WWWY demanded exclusivity from the WIAA as part of its contract because "Fox required WWWY to provide it with exclusive content for distribution as part of any agreement." Eichorst Aff., ¶¶ 31-32.
- 29. WWWY started live streaming WIAA athletic events on wiaa.tv in Spring of 2007. Eichorst Aff., ¶ 20.

- 30. During the 2008-09 academic year, there were at least 3,585 WIAA-sponsored tournament events covered by the WWWY contract. Second Veldran Aff., ¶¶ 11, 13-14 (2,764 regionals, 677 sectionals; 144 finals in sports other than Boys and Girl's Basketball, Boys and Girl's Hockey, and Football; not all individual events in certain sports included in count); Clark Aff., ¶ 8 (identifying finals events not covered by WWWY's contract).
- 31. Of those 3,585 events, 134 were produced by WWWY or its affiliates under the WWWY contract with the WIAA. Clark Aff., ¶ 8.
- 32. Thus, only 3.7% of those covered by the WWWY contract, were produced during the 2008-09 academic year. *See* Second Veldran Aff., ¶ 14 (total games); Clark Aff., ¶ 8 (games produced pursuant to WWWY contract).
- 33. The WIAA issues credentials "to members of legitimate media outlets and/or Internet sites that have a professional working function." Jt. Stip., Ex. B at 3 (Credential Provisions #1).
- 34. The WIAA will not grant credentials to "[s]ites with content, forums or advertising...not in compliance with the mission or media policies of WIAA, or associated with any promotion or link to material deemed inappropriate as determined by the WIAA." Jt. Stip., Ex. B at 2 (#9(E)).
 - 35. The WIAA constitution contains three stated purposes:

Article II - Purpose

Section I -- The purpose of this Association is threefold:

A. To organize, develop, direct, and control an interscholastic athletic program which will promote the ideals of its membership and opportunities for member schools' participation.

- B. To emphasize interscholastic athletics as a partner with other school activities in the total educational process, and formulate and maintain policies which will cultivate high ideals of good citizenship and sportsmanship.
- C. To promote uniformity of standards in interscholastic athletic competition, and prevent exploitation by special interest groups of the school program and the individual's ability.

Nero Decl., Ex. 2 at 14.

- 36. James L. Hoyt does not "purport to be an expert in First Amendment Law."

 Declaration of James L. Hoyt, Ph.D in Support of the Pls.' Mot. for Summ. J., Jan. 12, 2010

 (Dkt. #56) ("Hoyt Decl."), ¶ 10.
- 37. Internet streaming technology has improved greatly in recent years, making it easier for companies to reach a wider audience and more likely that they and other media companies would produce more tournament events if WWWY did not have exclusive rights. *See* Affidavit of Danny L. Flannery, Jan. 21, 2010 (Dkt. #41) ("Flannery Aff."), ¶¶ 6, 9, 15, 21.
- 38. The WIAA's advertising restrictions apply to all credentialed media. *See* Jt. Stip., Ex. B at 16.
- 39. Tim Eichorst, the President of WWWY, produced WIAA high school athletic events for several years before obtaining the exclusive WIAA contract. *See* Eichorst Aff., ¶ 5, 7-8.
- 40. The WIAA fears that without its exclusive contracts the "WIAA membership would lose control over the message that was associated with their voluntary athletic association and its ability to promote the members' ideals as stated in the constitution." Chickering Aff., ¶ 35.
 - 41. The WIAA responded to one of the defendants' interrogatories as follows:

<u>Interrogatory No. 11</u>: Do you contend that a person or entity, if work for hire, who fixes an image of a WIAA Tournament event in

a tangible medium does not own the copyright to that image? If so, please state the complete factual basis for that contention.

Response: While copyright ownership is a legal conclusion, the answer to this question depends on many variables. The only way the WIAA would recognize the right of a person or entity to fix an image of a WIAA tournament event in a tangible medium is if that person or entity obtained permission from and paid the appropriate fees to the WIAA and its agents who own and control the right to manage and produce the tournaments that generate the images sought to be fixed. As a condition of and in exchange for that permission, WIAA controls the ownership of the copyright. Absent such permission, the WIAA does not recognize the rights of person or entities to fix such images of WIAA tournament events in any tangible medium.

Declaration of Monica Santa Maria in Support of Defs.' Mot. for Summ. J. on Their Counterclaim, Jan. 22, 2010 (Dkt. #34), Ex. B at 8, Interrog. No. 11 and Resp. to Interrog. No. 11.

42. WWWY responded, in relevant part, to one of the defendants' interrogatories as follows:

<u>Interrogatory No. 6</u>: Do you contend that you own the copyright of images of WIAA Tournament events fixed in a medium suitable for Internet streaming produced by members of the media who have not obtained pre-approval, authorization or a license from you or from WIAA? If so, please state the complete factual basis of your contention.

<u>Response</u>: ...Pursuant to its contract with the WIAA, WWWY contends that it owns the exclusive right to produce, sell, and distribute the WIAA series and championships included in its agreement with WIAA. WWWY incorporates by reference plaintiff WIAA's response to Interrogatory No. 11.

Second Santa Maria Decl., Ex. A at 8-9, Interrog. No. 6 and Resp. to Interrog. No. 6.

43. Fox broadcasts television-quality productions of events. *See* Eichorst Aff., ¶31 (Fox requires high production quality); ¶ 16 (Eichorst expected to make profits on, among other

things, broadcast TV highlight feeds); ¶¶ 32-33, 35 (describing WWWY's multi-camera television-quality broadcasts shipped to Fox for delayed broadcast).

44. *The Post-Crescent*'s Internet streams are single-camera productions that are not television-quality. Declaration of Joel Christopher in Support of Defs.' Mot. for Summ. J. on Their Counterclaim (Dkt. #36), ¶ 19 (single camera on a tripod); Flannery Aff., ¶ 26 (not television quality).

45. WWWY did not start live streaming WIAA events on wiaa.tv until Spring 2007. Eichorst Aff., ¶ 20.

46. The WIAA was aware "that internet streaming was an important technological development" at least in 2003, two years before signing the contract with WWWY. Clark Aff., ¶¶ 11, 18.

Dated this 12th day of February, 2010.

s/Monica Santa Maria

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5-...-W ¶ _k-_a i_

Y%K z8 Q6 QK K Qz w yVV - KK-%

,,__ h K8Kq K-%- z w yVV q-6K../- 8zq-6-6 - z-Kz/ K - z 6% - MI
Y__5_ MML, FMMLM7zq6 z 6%6q 6-q-% - z z K 7z zz% Qz 6 Kz z; 6 8k%;
v z/z%66% 6-z; z8 K,Q %8z /z8z 6-q-% K K-%6-6%8/z8z 6-6 - -6 - 6%..K
w yVVF -%- z8; 6..z - z Qz y%z %z _ dK V..._5-... -\W \ k-a n_
v K z8 -%- - Qz z z% Q6 QK K 6-z; 6-q-%q-K-%6%8 % 6
/6q ' Qz 8z/z%86% 8-% 8K z Qz 6 z8 q-%q-K-%

_

, M_ v z/z%6% Q z6 z%z8 q-6K.. 6% 6 z z8 q- %z q-6K.. 6-z; z8—6 Kz %8z

/z8z 6—6- WK K%; QK 5- Qz 6 Q- K - 8zq-6-z Qz K,Q 6%8-z; 6—z-6-K-%-/ Qz 6 Kz _

dK V..._5-...-W ¶ _k-_a n_

v K z8 -%— - Qz z z% Q6 QK K 6 -z; 6-q-%q— K-%6% % 6 /6q_' Qz 8z/z%6% 8- % 8K z Qz 6 z8 q-%q— K-%_

, - _ v z/z%66% q−%8 q 7 6%K6−7 k%z k% QK 8K kq 6%8 Q6 z q−%z%z8 − z −%6−X K8kq k-%k% QK 5− _ dK V..._5−... -₩ ¶ k−_a , Lf v z/ _ V% z −(−_ dK V..z%z8 5−... -AV% z kW ¶ _k−_, - , L_

Y%K z8

,._ g z% z K - z k% QK v K kq 6% - MI Y _ 5 _ ,-n, A7RAMR7zq6 z 6

7 6% k6—6 -/ Qz q=% q 6% z z% ; K k% Kz - Qz q-6K.. -qq z 8 k% QK X 8 kq k6—

8K kq _ dK V..._5-... _ W ¶ _k - _a , , _

v K z8 -% - Qz z z% Q6 QK K 6 -z; 6-q-%q - K%6% % 6 /6q _ ' Qz 8z/z%6% 8- % 8K z Qz 6 z8 q-%q - K%_

, P_ ' Qz w yVV 7z; 6%k%, i nPW6% K /K z -/ z 6 68- z8 k%, i nl _ k z - v zq—G _M6 -_

Y%K z8

, l_ 'Qz w yVV K 6 .. z...7z F76 z8 - ; 6%K6 K-%q-... Kz8 -/ PLl 6 KqK6 K% 7-Kq
6%8 K6 z QKQ qQ---6%8,, a h %K- mK, Qte K88-z-uz z--qQ---..z...7z _ 5 QKq¶z K% V//_

Y%K z8

, a_ 'QzwyVVK...z...7z QK 8Kzqz8W6 Qz...z...7z 8z z— Qz z Q6; - z% Qz 6 -qK6 K-%W6%8W6 6%V%6-e zz k% z6qQV K-WQz...z...7z QK 6 - z 6% qQ6% z - Qz 5-% K K-%W -6 W6%8" -z -/ G-K-K7KK 5 QK¶z k% V// -

Y%K z8_

, i_{-} ' $Qz - z - Qz \le VVVK Qzz - 8t$

- 6_ '--; 6%KzW8z z— V8Kzq W6% q-% K%z qQ-6- Kq 6 Qz Kq -; 6... QKqQ K— -..-z Qz K8z6—/ K ..z..7z QK 6%8 - - %KKz /-..z..7z qQ— 6 KqK 6 K-%
- 7_ '-z... Q6 Kz K%z qQ-6- Kq 6 Qz-Kq 6 6 6 %z KQ-Qz qQ-6q KKKz K% Qz -6-z8 q6 K-%6--qz V6% /-... -6-z 6%8 ... 6K%6K%6K%6--kq Kz QKQ K-q-K6 z QKQ K8z6--/; --8 qKKz%QK 6%8 ... 6%QK_
- q_ '--..-z %K-..K -/ 6%668 K%K/z qQ-6- Kq6Qz-Kqq-...z KK-%W 6%8 z z% z —K6K-%7 zqK6-K/z z ; -/ Qz qQ----; 6... 6%8 Qz k%K k8 6—67KK-

 $kz - vzq G_M6$,._

Y%K z8_

, n_ 'Qz w yVV zz¶ -8z z— W8Kzq 6% q-% —6% k%z qQ-6- kq 6 Qz-kq -; 6...

- -...- z Qz k8z6—/ K ...z...7z QK 6%8 - - % kkz /- 6 kqK 6 k-%7 K ...z...7z _

5 Qkq¶z k% V//_ . f 5 -6-¶ V//_ -_

Y%K z8_

ML_ p - %KK K%-8z..z..7z 6 KqK6K-%K% - Fz6-%wyVVF -%-z8W
q-% --z8W6% / %8z8 - - %6..z% _ 5 QKq¶z K% V//_ .f5-6-¶ V//_ -_

Y%K z8_

 $M_{-} \quad \text{`Qz w yVV zq-; \%Kz8} \quad - \quad 6 \text{ z Qz /---- } \text{K} \text{$\%$ t d- } 7- \text{ W6 z76--W6 } \text{$\%$ z 76--W }$ $q - \quad q - \quad \% \quad W - \quad 76 - \text{W} - \text{/WQ-q} \text{$\%$ z W-qqz W K....} \text{$\%$ D 8KK } \text{$\%$ Wz\%KW } 6q \text{$\%$ D / Kz-8W --- z 76--W }$

6%8 z - 16% f 6%8 /- ; K-- W76 ¶ z 76-- W7 - q- % W - /- W ... %6 Kq WQ-q¶ z W-qqz W-/ 76-- W K... 16% D 8K 16% Wz% 16W 6q¶ D / 16E-8 W6%8 - z- 76-- k z - v zq-G _ML6 MP_

Y%K z8

Y%K z8

 $M_{-} \qquad Y\% z \quad Qz \ 5-\% \quad K \quad K\% WQz \ 1-6 \ 8-/ \ 5-\% \\ --A \ 1-6 \ 8 \quad RK \quad Qz \ ; - \ z \ \% \% \ 7-8 \quad -/$ Qz w yVV $\quad k \ z - v \ zq - G \quad ML \ 6 \ , PW nPML$

Y%K z8

M_ 'Qz 1-68 z... Qz G zq Kz v Kzq - _ k z - v zq-G _ML6 , n_ $Y\%K \quad z8$

Y%K z8_

 M_{-} V G zq Kz v Kzq – W5 QKq¶z K% 6 z –% K7–z/– Qz – z 6 — z 6 K-% –/ Qz w yVV_ 5 QKq¶z K% V//_ M_{-}

Y%K z8

Y%K z8_

 $M _ V...=\% 5 Q K \P Z K \% z - \% K Z K K E 6 G z q K z v K z q - 6 z - \% K Z K K / - Q Z 7 8; z W z z \% z 6 \% Z z \% K z - / Q z w y V V W 6 \% Q Z 6 6 Q - K z 8 - z % z K \% - q - % 6 q / - Q Z 7 Z K K - / Q z w y V V 6 % K ... z ... 7 z _ 5 Q K \P Z K \% V / _ M _$

Y%K z8

Mh_ '-88 5-6-¶ K Qz v Kzq - -/ 5-..... %Kq6 K-% /- Qz w yVVW Qz z Qz Q6 7zz% z ... — z8 K%qz MLLL_ 5-6-¶ V//_ M_

Y%K z8

-L_ 5-6-¶ z -%K7KKK K/q-8z -8 q K-%6% z KK-%-/ Qz 1 -z-K6W

..z...7z QK 7-Kq6 K-% 6%) 6 z ' - %6...z% - z%K -; 6...fq— 8 K/6 K-%-/ ...z8 K6

z-6-K-%f w z7 Kz ...6 K/6z %6%qzf) 6 z ' - %6...z%F z-6-z8 q- z 6; zf 6— 7-Kq z-6-K-% 6%8

- ...6%QK z//- 6%8 K/KK6 Kz f 6%8 6 K K/6 K%...6 ¶z K/6 6%8 -%- QK z-6-K-%QK _

5-6-¶ V// M

Y%K z8_

Y%K z8

 $^{-\}underline{M} \quad \text{`Qz w yVV 6q} \% \quad \underline{-z}8; z \quad \underline{Qz} \quad z \quad -\% \text{KKK} \quad -/\underline{-z}; \text{KK. 6 z \%} \quad ; 6 \text{ Qz } \text{K}\% \dots z8 \text{K}$ $z \quad z \quad z\% 6 \text{ Kz } \text{K}\% q - z \text{K}\% 6\% \quad z - \text{K}\% / - \dots \text{w yVV '} - \% 6 \dots z\% \text{ _k z - v zq _G _ . 6 , _}$ $Y\% \text{K} \quad z8$

⁻⁻_ 'Qz w yVV - K3z z-/- ... z8K6 q-%8 q K%K) z%K- mK,Q) qQ—m6%87—¶W
QKqQq-%6K% 7-Q zq 6- KqKz 6%8 g K3z-' 6%... K K-%(KqKz 6 Kz - 7 -68q6 W
q67-zV6%8 K%z %z z6... 8 K% Qz w yVV) 6 z '- %6.. z%) z Kz k z - v zq-G - 6 P,

AMLInF, L; K8zRf k z – v zq—G _M6 PLPP, AMLIi Fl.n Q6%87— \P Wq—%6K4K6, "68K-6%8" z-z-KK-%1 –68q6 (—KqKz R

Y%K z8

-._ 'Qz w yVV 6— 7-K-Qz 6%% 6—6 c z8K6 (-KqKz "z/z z%qz J K8zW QKqQK -8 qz8 - K%-... 6 z K8z ..z8K6-/ w yVV --KqKz K%z//zq /- 6—-z-z--/) 6 z '- %6..z%) z Kz q-... z KK-%_k z - v zq-G_. 6 ,_

Y%K z8

-P_ 'Qz c z8K6 (—KqKz "z/z z%qz J K8z 6K.. - 6 K ...z...7z -/ Qz ...z8K6 K% - K8K% q-... zQz%Kz q- z 6; z - QzK q-.... %KKz W KQ z z K% HK K% -/ - ¶K% ...z8K6 q z8z%K6—WK% Qz z-/ z K...z%W6% K% Qz q-... zQz%K-%-/ w yVV - z K,Q /-) 6 z '- %6...z%) z Kz q-... z KK-%_k z - v zq-G _. 6 ,_

Y% K z8 Q6 QK K Qz w yVV 6 z8 -z/- -8 qK% 6 c z8 K6 (— KgKz " z/z z% qz J K8 z

-1_ 'Qz c z8K6 (—KqKz "z/z z%qz J K8z K%q—8z —KqKz Q6 6 — - Qz .. z8K6

8 K% Qz w yVVF) 6 z ' - %6.. z%) z Kz WKz_Wz; K-%6-Wzq K-%6-W6% 6 z /k%6— %6.. z% _
k z - v zq_G_. 6 , L_

Y%K z8

-a_ 5-6-¶ 8z z— z8 Qz/K wyVV c z8K6 (—KqKz "z/z z%qz J K8z k% Qz/6—/

MLL- -688 z - %z QK 6%8 8K K7 K-%K z 8-q ...z%k% Qz wyVV 6q Kqz k%6

8z/k%kKz Kz%; K8z Q6 Qz wyVV q— -8-8K K7 z - Qz ...z8K6_5-6-¶ V//_ , , _

Y%8K z8 Q6 Qz z z z 5-6-¶ k%z%k-%_ v K z8 6 6; zW

6%8 - Qz z z% Qz/6q 6 z Qz wyVV Q6 %8z/k%z8 - %z QK K,Q Q6 6 z 8z 6Kz8 k%

Qz w yVV c z8K6 (—KqKz "z/z z%qz J K8z_w Qz Qz Qz w yVV Q6 6% qQ K;Q K 6 z K-%-/-6-_

-i_ 'QK c z8K6 (—KqKz "z/z z%qz J K8z 6 8Kq z8 KQ Qz MLL- c z8K6

V8 K- 5-....Kzz 6 6%8K% q-....Kzz ..68z -/..z8K6 z z z%6 Kz QKqQ

z Kz z8 6%6 6 - z8 Qz —KqKz 6%8-6% 6; z_5-6-¶ V//_ , , _

 $Y\%K \quad z8 \quad Q6 \quad qQ \quad z \quad Kc \quad 6\%8 \quad 6 \quad -6 - 6 \quad ; \quad 6\%z8 \quad 7 \quad Qc$ w yVV \quad \chi \chi8K \quad V8 \quad K - \quad 5 -..... K \chizz_

-n_ 'Qz w yVV 6; zz8 6 Qz MLL- c z8K6 V8 K- 5-....K zz ...zz \mathbb{R} % Q6 K - \mathbb{R} -8 qz 6% 8K z... \mathbb{R} % z Qz; \mathbb{R} 2 -6--...z8K6 -% Qz w yVV ...6K--K_ 5-6- \mathbb{R} V//_ , , _ Y%K z8_

. L_ 'Qz c z8K6 (—KqKz "z/z z%qz J K8z 688 z z Qz/—— K% K z t ..z8K6
q z8z%K6—f 6 ¶K% z ..K fq-..... %Kq6 K-%-K%z f Q--; 6 Q f - F, 6..z k%z Kz f 68K-W
z-z-KK-%6% q67-z —KqKz f y%z %z —KqKz f 68 z KK% f 6%8 7 -68q6 K,Q z ..K K-%Mzz _
k z - v zq—G _ . 6 , F, l _

v K z8 -%— - Qz z z% Q6 Qz 67- z -K K %- z Q6 K z 6%8

Qz c z8K6 (- KqKz " z/z z%qz J K8z 688 z z - Qz K z 6 z -_ g gW zq-6-6 K-%-/

V ...%k _ k z - K%) - -/ (-6K%K/ c - _/-) h_A/ ¶ _I PMRA k z - v zq-_RVG _ P 6

, , W. A-6-F7 F -6-R_

Y% K z8 Q6 QK K Qz w yVV - $\frac{1}{4}$

. M_ J z%z 6—WQz w yVV 6qqz 6 -Kq6 K-% / -...6%8 K z q z8z%K6—
z-z-KK-% 6 K-% q- z k%; - %6.. z% /- %z q6 - z f 68K- 6 K-%f 86K-6%8 zz¶—

%z 6 z WK-6q-8K%; Q--; 6 Qz f-z; KK.6 z - F zqKKq 7-Kq6 K-%f 6%8 %z F, 6 Qz k%;

z7 Kz-; 6%K 6 K-% Q6 .. zz qz 6k%q Kz K6_k z - v zq-G_. 6 _- F W, P_

Y%K z8

.-_ Y%sz QzwyVVy%z%z — KqKzwyVV- % QzK,Q - 6%..KW — 68W z6...- 8K — 6-q-%z%— Kz8 K% wyVVzz% 6%szzz QzK,Q -; 6%zq— Kz6%s%zq— KzK,Q - %-; 6% Q-zK,Q -%6%zz%F7 Fzz% 76 K_kz-vzq—G_.6

 $Y\% K \quad z8 \quad Q6 \quad QK \quad K \quad Qz \quad w \quad yVV \quad q \quad z\% \quad y\% z \quad \%z \quad -kq \quad kz - v \quad zq \quad yG \quad P6 \quad MAML \quad L \quad -kq kz \quad W5 - \dots \quad zQz\% Kz \quad (-kq \quad I \quad , \quad R \quad w \quad Qz \quad Qz \quad w \quad yVV \quad Q6 \quad Qz \quad 6 \quad z \quad z8 - \%z \quad QK \quad k \quad Q \quad K\% \quad 6 \quad /6q \quad f \quad KK \quad 6q - \%q - K -\% -/ -6 \quad _$

.._ 'Qz w yVV — KqKz 8z/K/z Qz z ... 7 – 68q6 6 6KK% H z6..K% Qz z%Kz
8 6 K-%-/ - %6..z%; 6..z _ k z - v zq _G _ 6 , , _

 $v~K~z8_'~Qz~w~yVV~8z/R/z8~Qz~z~...~7~-68q6~R\%K~MLi~FMLn$ c z8 K (— KqKz~"~z/z~z%qz~J~R(z_ k_z - v_zq_G _. 6~, , A6KR/ş~H~z6...R/ş

m Qz z%Kz 8 6 K%-/ - %6.. z%; 6.. z _ RAz... Q6 K 688z8R_ ' Qz q z%

AMLInF, LRw yVV — Kąkż 8- % 8z/k%z Qz z ...W 8z/k%z k% z68 6 6%...K k.% 6 Wk%

z-z-6% 6 W Qz 6%...K k%; - k%z%-/ 6%...K k%; 6% - kz- 6 z8 - k-%W z%kz

8 6 k-%-/ - %6.. z%; 6.. z _ k z - v zq--WG _ P 6 , , _

 $v \ K \ z8_Y\% z \ Qz \ w \ yVV \ - \text{Kq} \text{Kz} \ W.-z \ Q6\% \ -... \text{K\%} \ z \ -Q-/ \\ \text{Ksz-}...6 \ 7z \ z8 \ 6 \ Q \ Q \ Q \ Z; \ -6--- \ qQz 8 \ -z8 \% z \ - \ - \ 7 \ -68 \ q6 \ - \ w \ z7 \ 6; z_k \\ \text{kz-} v \ zq--G \ P \ 6 \ , M \ R \ Z-I-R$

Y% K z8 Q6 QK — Kq K K%q—8z8 K% Qz q z% c z8 K6 (— Kq Kz z/z z%qz J K8z K%688 KK-% — Qz MLLi H.n — Kq Kz Qz qK6 K-%...6¶z z/z z%qz — _ k z — v zq—WG _ P6 , - AMLnF, L J K8z Wg K8z— I PR_

.a_ c z8K6 q- z K% w yVV - %6..z% z z% /- %a q6 - z ...6 W KQ6 K% 6/zzW,R z - %6..z% 6q K% 6 676q¶8 - /- Kz 6q K% z - A - Ksz8 % -6-F
7 F-6- K z8R66%H AMR z - ...K% z -//K...W Ksz-6 zWz q_-%6 z; -6--qQz8 -z8 %a - - -; 6..._k z - v zq_G _M6 P, f-6 P, f. 6 , M 6% P 6 , M ; -_
v K z8_Y%z Qz w yVV - KqKz W..- z Q6% - ...K% z - Q-/
Ksz-...6 7z z8 6 QKQKQ -% z; -6---- qQz8 -z8 %a - - 7 -68q6 - z7 6; z_
k z - v zq_WG_P 6 , M g Ksz-I-R_

. n_ 'Qz w yVV Q6 - K8z8/- ...z8K6 6qqz -q-..... %Kq6 K-%-K6z Az;_W
z-z-Q-%zWQK-QF zz8 K%z %z W6%8 Kz-z- q-%%zq K-%R/- z k% z - k% 6) 6 z
'- %6...z% z%z k z - v zq-G _P 6 1_

Y%8K z8 Q6 qQq-..... %Kq6 K-%-K%z 6 z ...68z 6 6K67-z_ v K z8 - Qz z z% Q6 Qz z 6 z %-/6q K% Qz zq-8 Q6 6% ...z8K6 - Qz 8z/z%86% Q6 z z8 qQq-..... %Kq6 K-%-K%z _

PL_ 'Qz w yVV 6— z .. K Qz 6¶R% -/ Q--; 6 Q /- z - R% -z W- F ; 6.. z R%z & -/ -6-z 6% q-6qQz W68K-6%8 - Qz 6 8K-7 -68q6 -/ w yVV z z% W6%8 - Qz 6 z% z -/ z - R% 6%8 .. z8K6 q- z 6; z_5-6-¶ V//_ M FMPf k z - v zq_G _. 6 1 F, Pf G P 6 i F, .

Y%K z8

Y%K z8

P-_ 5 QKq¶z k% 6 z -% K\frac{-z}{-z} - Qz w yVV MLLa FMLLi 7 8; z W6\% k\% Q6 z 6

Qz - \%6...z\% 7 - ; Q k\%TI WMLMM - W QKqQ 6 i 1 E -/ Qz w yVV - 6-- z 6 k\% z z\% z

-/ Ta Waa W, P_ 5 QKq¶z k\% V//_ PWG _V_

Y%K z8

P. _ 'Qz z..6k% MLaRMLi w yVV z z% z q6..z/-....z..7z QK 8 z W QKqQ
6...= %z8 - PE -/ z z% zf - /zz W QKqQ6...= %z8 - PPE -/ z z% zf-//KqK6—8 z W
QKqQ6...= %z8 - PE -/ z z% zf 6% ... Kqz-6%z- z z% z qQ6 7 q K K-% 6% -z
7—¶-8z W QKqQ6...= %z8 --E -/ z z% z_5 QKq¶z K% V//_ PWG _V_

Y%K z8

PP_ V — / w yVV z z% z K z8 - - K -; 6... 6% Qz 68.. K/K 6 K%

Qz z – / WK/q — 8 K/ş 6 K/ş /- Qz z z% z - / - z 6 K/ş Qz - %6.. z% K/6 — w yVV zq -; %K z8

- _ 5 QKq¶z K/ş V / /_ 1_

Y%K z8_

Pl_)-..z-/ Qz w yVV zq-; %Kz8 - ; z%z 6 z 6 -/KV6%8-Qz ; z%z 6 z 6--/- Qz w yVV_5 QKq¶z K% V//_ aWG _V_

Y%K z8

Pa_ 'Qz -/K /-...-%z w yVV zq-; %Kz8 - 6 z z8 --// z 8z/KqK k%-Qz w yVV zq-; %Kz8 - _ 5 QKq¶z k%; V//_ a WG _V_

Y%K z8

Pi____ ' Qz 6 ...6X+ K -/ Qz w yVV - %6...z% z z% z K 8z K z8 / -...76 ¶z 76—6%8 /—76—v zq-6-6 K%-/ h6..z u_m- W Qv_K%) - -/ (-6K%K/ c - K-%/-)6
h 8; ...z% m- v zq-__ ... AKz8 Qz z KQR k z - v zq-G _, . f 5 QKq z K% V//_G _V_

 $v \ K \ z8 - Qz \ z \ z\% \ Q6 \ 6 \ ...6X \ K \ K \ 6; \ z _ y\%MLi \ W$ $76 \ \Pz \ 76 - 6\% \ /--- 76 - 6qq - \%z8 \ /-- 1 \ L_nE \ -/- Qz \ w \ yVV \ T1 \ WLMM - - 6 --- z \ 6 \ K_0 \ z \ z\% \ z _-$ $V// \&6 \ K -/- v - \ ; -6 \ G_5 \ QKq \Pz \ K_0 \ Wh6\% \ MWL, \ LA \ \P \ _IP - RA5 \ QKq \Pz \ K_0 \ V// \ _RWG \ _V \ 6$ $, i \ F, n \ A6 \ \Pz \ 76 - MLi \ z \ z\% \ z \ -/ \ TMW \ PWPL \ ... \ K + \%6\% \ MLi \ /-- 76 --- z \ z\% \ z \ -/$ $Thi \ i \ Wi \ . \ R$

Y%K z8

1L_ y%MLi WQz w yVV 7 k8Kz8 Qz/— k% - A. z6%k% z z%z/- 6 - z qzz8z8 z z% z /- Q6 - W- w yVV z z% z /-...- Qz - q- z z8 Qz 8z/kqkR 16 z76—\ 5 - % W -/W ...% kq W)-/ 76—\ K...k% 6% v Kk% W z%kk%% 6q¶ D dk-8_5 Qkq¶z k% V//_ i WG _Vfk z - v zq_G _, . f m- v zq_ ...

Y%K z8

 $v \ K \ z8_' \ QK/6q \ K\% - z - K\% \ Qz \ zq- 87zq6 \ z \ Qz 6//K6\%$ 8-z % Q6 z z -%6-¶% -z8; z-/ Qz/6q_

, .

1._ 'QzwyVVQ- 6%868..K%Kz MP) 6z5Q6...K%QK'- %6..z% WQKqQ

K%q—8z7-Q7- 6%8;K— - W6%8 K%8KK8 6-6%8 z6...q-...zKK-%_5QKq¶z K% V//_ MI_

Y%8K z8_

11_ w Qz% Qz w yVV z Qz z% z WK z Qz...—z—/- K 6 Qz-Kq q-... z KK-%_ 5 QKq¶z k% V// MI

v K z8 6 K/q-...-z-z_' Qz w yVV z Qz z% z /- 6 Qz-kq q-... z KK-% - QkqQ K K% Kz 6% 68.. K .. z...7z -/ Qz 7-kq 6% q z8z% K6-z8 .. z8 K6_k z - v zq-_VG _- 6 . i A zq 6 - _- kq kz Rf k z - v zq-_VG _P 6 , A z% 6-q z8z% K6-k% K%-.. 6 K-% R

la_ 'QzwyVVQ6 z-/Qz/6qKKKz- z%z/- Qz8 6 K-%-/Qz6 Qz-Kqq-...zKK-%6 zqKkz8 k% Qz-z6 z W6%8 8-z %- - Qz KzQ6 z 6% q-% --- z - -7-K-6 K-%

KQ z zq - Qz...6%; z...z%- - z 6 K-%-/ Qz/6qKKkz - z%z Qz%- z87 Qz

wyVV/- K 6 Qz-Kq z z% _ 5 QKq¶z k%; V//_ MI_

Y%K z8

Y%K z8

ln_ 'QzwyVV Kz -/K28 Qz7z /6qKK-6 6K67-z-Q-q6 z Qz6 Qz-Kqz z%W
- K8z8 Qz/6qKK-K 6 6K67-z-6% 6//-867-zW6%8-//z ;—8 6—z/- QzwyVV ...-%z_
5 QKq¶z K% V//_ Mb_

Y%K z8_

aL_ G6qQ-/ Qz 7-Kq z%z z87 QzwyVV 6 8z K;%z8/- Qz zqKKq z

-/6 Qz-Kq - %6..z% 7zk% Qz-8- Qz zt Qz 7- 6%s; K-; -/- %6..z% 6 z Qz-8-6

Y%Kz K "ks; z; -/-q- z k%c 68K-%% z%z -z-8z K;%z8/-; -/f Qz/- 76-
- %6..z% 6 z Qz-8-6 5 6... "6%86--68K...k%c 68K-%%/6/6qKK z8/- /-- 76--; 6..z f

7- 6%s; K--qqz - %6..z% 6 z Qz-8-6 YkQzk%) -qqz (6 ¶ k%c K-6 ¶zzW QkqQ 6

8z K;%z8 zqKkq6--/- -qqz; 6..z f K...k% 6%s 8K k% - %6..z% 6 z Qz-8-6 Qz Yw

k 6 6 - K...k%c 68K-%%/6/6qKK KQ ---6%s 6 8K k% z-f; K-6%s 7- z%kK - %6..z%
6 z Qz-8-6 Qz k kz-z% z%kK) 68K...k%c 68K-%%/6/6qKK q-%6kAk% k%- 6%8 - 8-
z%K q- 6%s 6 Qq- f6%s -/ 76--- %6..z% 6 z Qz-8-6 Qz J --8..6%v Ks...-%8 k%
c 68K-%W QkqQK 6/6qKK 8z K;%z8 6%s z8/- -/ 76--; 6..z _5 Qkq¶z k% V//_ Mh_

Y%8K z8

a, _ 'Qz w yVV 6— Q- - %6..z% 6 z z 6— K 6 z /6qKKkz t 76 z 76—

- %6..z% 6 z Qz-8-6 d- 5 Kkz) 68K ...k%V -z-%W QKqQ K 6 K 6 z— %z8 ...k%

-z6; z 76 z 76— 6 ¶f Qz 7- -z 76— %6..z% K Qz-8-6 w Kq-%k%u Qz 6%5—z; z k%

c K-6 ¶zz W6 K 6 z— %z8 q-z; z f 6% Qz q - q- % - %6..z% K Qz-8-6 Qz "k\$; z

J — 5- z K%w Kq-% K%" 6 K8 W6 K6 z— %z8; — q- z A QKqQK %--z6 z8K_ 5 QKq¶z K% V//_ Mh_

Y%K z8

a<u>M</u> p Qz w yVV - %6..z% 6 z 6— Qz-8-6 Qz u k%q—%d kz-8-m— z k%w Kq—%k%
"6 k8 A QkqQK %- -z6 z8kWQz Yw d kz-8-m— z k%c 68K—%WQz c z...- k6—) 68K...k%
u65 - zWQz "z qQ5 z%z k%J zz%l 6 WQz r -Q-5 z%z k%c 68K—%W6%8 Qz V—k6% G%z;
5 z%z k%c 68K—%W6—/ QkqQ6 z z% z z8/- 8k/z z% 6 Qz-kq z z% _ 5 Qkq¶z k% V//_
Mh

Y%K z8

a-_ ' Qz w yVV z 67-K-Qz 6/zz/- 68.. K K-%-K - %6.. z% _ 5 QKq¶z k% V//_- - L_

Y%K z8_

Y%K z8

aP_ 'QzwyVV - Ksz /- / zz 68...K K-%/- qz 6k%q6 z; - Kz -/ z--zW qQ6

qQzz -z68z WqQ---6// ...z...7z W,6...z -//KqK6--6% q z8z%K6-z8 ...z8K6W7 %--Qz z -%

7z -% Q- z Ksz%KK28 ...6 7z - Ksz8 q-...-K. z%6 68...K K-%_5 QKq¶z K% V//_ - L_

Y%K z8

Y%K z8 Q6 Qz w yVV k%z%8 Q6 6%z z% 7z 6%6//- 867-z-- k% /- /6.. kkz _ v K z8 - Qz z z% 6//- 867-z- k% /- /6.. kkz K 6; z_ v K z8 6— Q6 Qz z 6 z 6% /6q K% Qz zq-8 - - Qz q-%z%K-% Q6 /6.. KKz ; z%z 6— q-%K\$z Qz w yVV 68.. K K-%/zz 6//-867-z-

aa_ 'Qz w yVV Q6 %- 8z%k8 6-z; KK.6 z .. z8K6-; 6%k6 K-%z% -6- %6.. z%W
z% -8z K,%6 z8 .. z8K6/6qKKK -/ w yVVF -%- z8 z z% W .. z8K6 q z8z%K6-_
5 Qkq¶z K% V//_ -, fk z - v zq-G_, i 6 y%z -; _k-1 6% "z _k-1_

Y%K z8

ai_ J 6%% 68...K Q6 KK %-6 6 z -/6% k% 6%qz k% QkqQw yVV Q6 8z%kx8 v z/z%86% - - Qz ...z...7z -/ Qz %z ...z8k6 z% -6 w yVVF) -%- z8 G z%_ k z - v zq_G _, i 6 y%z -; _k-1 6%8 "z _k-1_

Y%K z8

an_ 'QzwyVVQ6Q686%zq—Kzq-%6q KQd-) - kz -¶wKq-%K%

Ad- R- 6%..KQzzz%6z/—76-/K%6-K%qzMLL,_5QKq¶zK%V//_n_

Y%K z8

i L_ ' Qz w yVV zqzKz TMLWLL 6%% 6—/ -...d— /— Q6 z q— Kz q—% 6q _ 5 QKq¶z K% V//_ nWG _1 f 5 -6-¶ V//_ i _

Y%K z8_

i,_ 'QzwyVVQ6 Q68 6%zq—Kz K3z- 6%..K K-%q-% 6q /- 7- 76 ¶z 76—;6..z KQ" K%q kz 6 z Wy%q_A"ky R K%qz, nli_5 QKq¶z K% V//_ , L_

Y%K z8_

Y%K z8

i._ 1 z; K&K K K K67- MLL-W k y —8-5 QKq¶z K% Q6 K q— -8-% —% z 6//-8 - -//z 6 q—... z KK z -8 q /- Qz q—% 6q Kqz -/ T, . LWLL_ 5 QKq¶z K% V//_ , , f 5-6-¶ V//_ . _

v K $\,$ z8 6 Qz6 6 $\,$ ' QK /6q K %- $\,$ $\,$ - z8 7 68.. K K/-z- z Ksz%qz

i P_____' Qz w yVV 6%8 " k y%z; – K6 z8 6 z8 q K-%k% Qz 6%% 6-/zzt y%MLMW k y 6k8
Qz w yVV T, . LWLL %8z Qz q-% 6q f k%MLL-W k y 6k8 T, MPWLLf k%MLL. W k y 6k8
TaPWLL_ 5 Qkq¶z k% V//____, __

Y%K z8_

 $i l_{_} y\%MLL. W KQ - z6 - 24 - \% Qz q - \% 6q W k y 6K K q - 8 - \% ; 6 6\%zz Q6 K - 8 - z\%z K\% - 6 qqz - 6; zz... z\% \% - Qz w yVV 6 K - 6 - z K Kqz_ <math display="block"> 5 QK \Pz K\% V// , M$

v K z8 6 Qz6 6 _ ' QK/6q K % - z8 7 68.. K R-z z R2%qz_

i a_ y%-6-%8 MLL. WQz w yVV 6%8 "k y%z; - K6 z8 6 z8 q K-%k% Kqz 8- %T. LWLL z z6 W6%8 zq z8 6%z z%8z8 q-% 6q KQ" k yW-z 6 k%; 6 'Qz w yVV) 6 z
k z - ¶W%K-ML, L_5 QKq¶z k%; V//_, MWG_5_

i i _ " k y 618 6%6% 6—zz —/ T. LWLL — Qz w yVV %K-MLi W6 QKqQ K. z —% ... 6—6; zz..z% —/ Qz 6 Kz WQz " k y 6 ..z% — Qz w yVV K%q z6 z8 — TaPWLL 6% 6—_ 5 QKq¶z K% V//_ , M_

Y%K z8

Y%K z8

v K z8 6 Qz6 6 _ ' QK /6q K %- - z8 7 68..K K/-z-

n, _ ' Qz q-6qQz 6%z8 Qz 6..z z - z/- QzK - 6%8 6 Qz-z Q6
76 ¶z 76—VQ-q¶z 6%8 /— 76— z z zqzK R% _ 5 QKq¶z R% V//_ , P_

v K z8 6 Qz6 6 _ ' QK /6q K % - z8 7 68..K K z

z K8z%qz_

z K8z%qz

 $n\underline{M} \quad ^{\prime} Qz w yVV \quad 6// \quad 6 \quad 6\% K \quad -; z \quad 6 \quad ..6\% \quad - \quad 7 \underline{Kq} - 8K \quad K7 \quad z8 \quad 6 \\ - \quad K7 \underline{-z} \quad 5 \quad QKq\Pz \quad K\% \quad V// \quad , P_{-}$

Y%K z8

n-_ V Q6 K.zW6 - %8 MLL. W%- z-z-KK-% 6 K-%q6 Kz8; 6..z - Qz Q6% Qz d— 76—dk%6—A QKqQ 6 q6 Kz8 7 d- RW6%8 Qz m-q¶z dk%6—6%8 1 - 6%8 J K— 16 ¶z 76—'- %6..z% A QKqQ z z q6 Kz8 7 "k yRWz qz Q6 Wk% -..z k% 6%qz W-q6—

Y%K z8

n._ V -/ MLLPWQz w yVV 6 % 6 6 z -/ 6% k%z %z z6..k% -/ w yVV z z%

7 6% 6 W6% Qz -%- KQ /zz Qz w yVV zqzKz8 6 Q6 K.z z z / -... Qz 6%..K k-%

-/ k8z- -/ K - %6..z% z z% /- d- 76-) 6 z dk6-W - 6%8 J K-1 6 ¶z 76-) 6 z

'- %6..z%W6% m-q¶z) 6 z dk6-_ 5-6-¶ V//_ P_

Y%K z8

nl_ 'QzwyVV k% Kz8 QzQz K z K k% q-% 6q 6—6 %z ... kQ 7z k%z z z8 k%7 -68q6 k% Qz z 688Kk%6-z z% W Qz z K k% q-% 6q 6—6 %z z z z8 q-%qz % - z QzQz Qz q- -8-K... -z... z% 6/z6 k7-z/k6%qk6-...-8z-+-... QkqQ Qz q- -8- -/K7 Qz z 6%k%W-8zq-k%z8 - z Qz- - %k_5 Qkq¶z k% V//__, 1f5-6-¶ V//__ 1__ v K z8W6 Qz6 6 WQz zq-%8 6 z k-% 6 k% Q6 Qz z K k% q-% 6q 6—6 %z z z z8_' QK - k-%-/ Qz/6q K %- - z8 7 68... K k7-z-z k8z%qz_Y%8K z8-Qz Kz_

ni _ w w w : 6 k%q- - 6 z8 k%MLLM_ GKqQ- V//_ -_

Y%K z8_

nn_ www: K6 K8z- -8 q K-%q-...6% --q6 z8 K6w 6 %¶zzWw Kq-% K6_ GKqQ- V//_ ._

Y%K z8

, L, _ GKqQ- z z6 qQz8 QK,Q qQ- - 6%8 z6-Kz8 Q6 Qz q- -8-q-%%zq Qz ; - k% zqQ%--; - Qz k%8 6%8 q6 z - Qz ; - k% k%z z k%QK,Q qQ- - _ GKqQ- V//_ 1_

Y%K z8

, LM_ GKqQ- KXK6-...68z QK,QK;Q K8z- /- 6 QK,Q qQ--- z6...W6%8

7 z z%--7z; 6%- QK4 67- 6-6-; z -6-/- .../- -8 qK4 6%8 8K K7 K4 QK,Q qQ--6 Qz-Kq z z%_ GKqQ- V//_ i_

Y%K z8_

, L-_ GKqQ- ¶%z Q6 8K K7 K-%-/ w yVV - %6...z% 6 z -K. Kz8W-GKqQ- 6 6% z8 6% K% -8 q K-% - 5 QKq¶z K%_ GKqQ- V//_ n_

Y%K z8

, L. _ GKqQ- /K ..z 5 QKq¶z K% 6 6 6 z/— 76— %6..z% K% Qz/6—/ MLL-W6
QKqQ K.z Qz 7 Kz/—8Kq z8 -8 qK% 6% 8K K7 K% w yVV - %6..z% _ GKqQ- V//_
, Lf 5 QKq¶z K% V//_ , a_

Y%K z8

, LP_ GKqQ- 6% 5 QKq¶z K% 6; zz8 - ..zz 6; 6k%K%v zqz...7z -/ Q6 z6 - 8Kq Qz z K z K%...- z 8z 6K_GKqQ- V//_ , Lf 5 QKq¶z K% V//_ , a_

Y%K z8

Y%K z8

 $, La_ y\%c 6 -/ MLL. WGKQ- /- www: 6\% 5 QKq¶z k% /- Qz w yVV K, \%z 8 6 \\ uz z -/ y\%z\% - z 6/- ... 6-q-% 6q ; 6\%k% w yVV --; 6.....k% K, Q -www: _ GKQ- V//_ , MWG _Vf 5 QKq¶z k% V//_ , n_$

Y%K z8_

, Li _ 'Qz uz z -/ y%z% 8z q K/z8 Qz ... 6-K%z z 7z zz% Qz w yVV 6%8

w w w : - - ¶ -; z Qz %8z 6-%; Fz ...q-% 6q - -8 qz 6%8 8K K/z z w yVV
z z% W KQ Qz %8z 6%8K%; Q6 ...6% 8z 6K--/ Qz z-6-K-%QK - -8-%zz8 - 7z - ¶z8
6%8 8Kq z8_GKqQ- V//_, MVG_V_

Y%K z8_

, Ln_ 'Qz; z%z 6—%8z 6%8k% 8z q k7z8 k% Qz uz z -/ y%z% 6 Q6 w w w :

- -8-Q6 z Qz z q—Kz k,Q - -8 qz 6%8 8K k7 z 6—w yVV -6--// 6%8 - %6..z%

z z% Wz qz Q- z %8z 6 zFz K k% q-% 6q W- -k-z- 6 z 8z-6-z8 -; 6....k% _

GKqQ- V//_ , MVG _Vf 5 QKq¶z k% V//_ , n_

Y%K z8

Y%K z8

,,,_ v K K7 K-%/-...6 ---8-K%q-8z 7 -6876%8 Wq67-zW%z -¶ 6%8 Q Kq6-...z8K6_GKqQ- V//_ , MWG _V_

Y%K z8

, , M_ 'Qz uz z -/ y%z% 6 K;%z86 Qz 6..z K.z Qz w yVV 6 z%6; z8 k%

8Kq K-% KQ" k y67- z%z; - K6 k% Qz K q-% 6q /- 6 z8 qz8/zzW- Qz - zq -/ 6
q-% 6q 6-6 6% z..z% KQ6% Qz 6 %z - - k8z z z%z - Qz w yVVW QKz-6 Qz 6..z

K.z 6 K/ k% Qz w yVV ; -6-6% k%z z k%z 6%8k% 8K k7 K-%-/ 6 Qz-kq z z% W 6 -/
; z6 k%z z - Qz w yVV_5 Qkq¶z k% V//_ , n_

Y%K z8

,,-_ V/z Qz u z z -/ y%z% 6 K;%z8WGKqQ- - ¶z8-% z z6 qQk% 6%8

- - k% 67 k%z -6%/- Qz 6 %z QK 7z zz%w w w : 6%8 Qz w yVV /- -8 q K-%
6%8 8K K7 K-%-/ w yVV - z z% _ GKqQ- V//_ ,-_

Y%K z8

Y%K z8_

Y%K z8

 $K_{N} = z - Q_{z} \le VV = 0$... $z_{N} = 0$

v K z8 – Qz z z% Q6 –; z Kz Q- ; Q -z68z K %q z6 W 7 K....6 z **K**—

, , i _ GKqQ- -6%% z8 --; 6% Kz 6 ..6%; z..z% q z k% Qz/kz-8 - 6 z Qz z z% V6% Qz - - 6-k8z% Kkz 8 Qz zqK Kq/kz-8-z K..z% w w w : - - 8- z qQ6
56..q-8z Vq-... z V6% 6 -qk6 z8 6qqz - kz V6% w w w : q- /- QK/kz-8-z K..z%_
GKqQ- V//_, Pf 5 QKq¶z k% V//_ ML_

Y%K z8

 $Y\%K \quad z8 \quad Q6 \quad GKqQ - \quad --z8 \quad --Kz \quad z6...z \quad z\% \quad v \quad K \quad z8$ $- Qz \quad z \quad Z\% \quad Q6 \quad Qz/6q \quad ; ; z \quad 6-z \quad z\% \quad q-z \quad z8 \quad 7 \quad Qz \quad 6; \quad zz...z\% \quad 6 \quad z \quad 7zK\% \quad -8 \quad qz8 \quad ^{2}Qz \quad Qz \quad 6; \quad zz...z\% \quad 6 \quad z \quad 7zK\% \quad -8 \quad qz8 \quad ^{2}Qz \quad ^{$

6 ...6X K -/ z z% q- z z8 %8z Qz 6; zz...z% KQw w w: 6 z % 7zk% -8 qz8 7
6%-%zW Qz Qz 7 z6...k% - Q-; Q6% - Qz /- ...6_) -z...z%6-(- - z8
dk%k% -/ d6q k%) - -/ v z/z%86% c - k-%/-)6 h 8; ...z%-%' Qz K
5- %z q-6K...) (dp d - LF M/p %-- aE -/; 6..z q- z z8 7 w w w: z z -8 qz8
k%MLi R

, ML_ '- -8 qz Qz/K... WGKqQ- -698/z8 - q-% q - 6q Kz 6 6 z -/ Qz 6

-8 q K-%/6qKK- W6q Kz Q6 8 6 z 698 -/ 6 z W698 - K8z 6—zqQ/Kq6—6//K/6 W- QKqQ

Qz 7 8; z z8 Qzz .. K-K-%8—6 GKqQ- V// , P

Y%K z8 Q6 QK 6 GKqQ- --6_

Y%K z8

, MM_ Y%8z Qz - - 6-WGKQ- - -8-6-- - ¶ -%...6 ¶z K% z//- K%Q-%X%q K-% KQ Qz w yVVW6% - -8-8z z-- 6%8-6-%qQ6 z7 Kz/- Qz 8K K7 K-%-/ w yVV z z% _ GKQ- V//_ , P_

Y%K z8

 $, M_ GKqQ- z -6K/z8 Q6 www: -8-6 ... z Qz/K/6%qK6-z -%K7KK-/- Qz$ z% zW6% Q6 QzwyVV 6% K ... z... 7z -8-Q6 z%/K/6%qK6-q-.... K... z% - Qz

 $z\% \quad zWV \quad - -\$-Q6 \quad z \quad Qz - - \quad \%K \quad - z6 \% - 6 - \texttt{Kz} \quad 76 \quad z8 - \%8K \quad \texttt{KZ} \quad \texttt{K-\%} \quad z \quad z\% \quad z \quad - \\ \text{GKqQ-} \quad V//_ \quad , 1 \quad f \quad 5 \quad Q\text{Kq} \quad \texttt{Z} \quad \texttt{K\%} \quad V//_ \quad M_$

Y%K z8

 $, M_{-} \text{ w w w : } z \text{ } zq \text{ } z8 - 7 \text{ } z6\P \text{ } z \text{ } z\%-\% 6\% 8\% - -/K/-..R \text{ } Q6 \text{ } 8 ... \text{ } z8 \text{ } 6 \text{ } Kz...\text{ } W$ $qQ6 \text{ } Qz; 6... z/K-.. \text{ } WQK, QK-Q \text{ } \mathbb{R} z-\text{ } W8-q \text{ } ... z\% 6 \text{ } K \text{ } 6\% 8 \text{ } K-Q--; 6 \text{ } Q \text{ } W \text{ } QK-Q \text{ } -\$-7z \text{ } 867-z-- Qz \text{ } q-\% \text{ } ... z \text{ } GK-Q- \text{ } V//_ \text{ } ,1 \text{ } f5 \text{ } QK-\P z \text{ } V//_ \text{ } M_{-} \text{ } Y\% K \text{ } z8$

,MP_ www:zzqz8-..6¶z -/K-%7-68q6 ..z8KWK4q—8K46 qQQK46 6
z6-FK.z;6..z/zz8W7-68q6 'gQK,QK,Q/zz8 W6%8 8K -8 q K%-/ zz¶—'gQGKQ- V//_,1f5QKq¶z K46 V//_ M,_

Y%K z8

Y%K z8

, Ma_ 'Qz V; zz..z% 6 / —z zq z8 k%c 6 –/ MLLPV6%8 –6 /- 6 z ...–/ z% A_LR z6 _GkqQ- V//_ , a WG _5 f 5 Qkq¶z k% V//_ MM_

Y%K z8

, M_ 'Qz V; zz..z%; Kz www: Qz z q—Kz K; Q - -8 qzWz—W6% 8K K7 z 6—w yVV - %6..z% z Kz 6% qQ6... K-%QK z z% /- 6—w yVV - Wz qz Q- z %8z z K K%; q-% 6q W QKqQ6 z d— 76—6% m-q¶z) 6 z d K6—W6% Qz z%Kz) 6 z 1 - 6% J K—1 6 ¶z 76—'- %6..z% _GKqQ- V//_ , i WG _5 f 5 QKq¶z K%; V//_ Mf 5-6-¶ V//_ i _

Y%K z8

, $M_1 = w w w$: 61& T1 LWLL $- Qz w yVV R/MLLi /- Qz z K,Q _ 5 QKq¶z R/6 V//_ Mf5-6-¶ V//_ i f GKqQ- V//_ M[_$

v K z8 6 R%q-...-z-z_w w w: ..68z 6 TI LWLL 6 ..z% - Qz

w yVV R%h --MLn A- K MLi K,Q RW Q6 6 ..z% 6 7 - 6-6; zz..z% 6%8 % 6
6 -/ Qz 6 ..z%/- ... 6-R% Qz V; zz..z% z/z z%qz8 R%(- - z8 d6q , M__) zq-%8

v zq-6-6 K-%-/ c --%q6) 6%6 c 6 K6 y%) - -/ v z/z%66% c - K-%/-)6 h 8; ..z%

-%' QzK 5- %z q-6K...AKz8 Qz z KQRA) zq-%8) 6%6 c 6 K6 v zq-RWG _V 6 a A/%z -; _k -_

. 6%8 "z _ - y%z -; _k -_ .. Rf5-6-¶ V//_WG _- 6 -_

Y%K z8_

, -M_ 'Qz V; zz..z% - K3z /- -8 q K%; -6—W -8 qz8 zKQz 7 w w w :

8Kzq --- Q-; Q6%6//KK6 zW/, LLE -/ 6 z - %6..z% WPLE -/ zq K-%6-z z% W6%8 MPE

-/ z; K-%6-z z% _ GKqQ- V//_ M WG _5_

Y%K z8

,-._ 'Qz V; zz..z% - K8z /- 6...-KF-6-/-...8K K7 K-% 6 z; %8z QKqQ

www: 6; zz - 8K K7 z 8Kzq-W-q-% 6q KQ6 8K K7 K-%6; z% /- www: -8 qz8

z z% WQ-; Q-Kz -8 q K-%W-kz-8z-6-z8 z6...K6 W K8z--%8z...6% W z 8z-6-z8

-8 q K-%W6% Q Kq6-...z8K6_GKqQ- V//_ M WG_5_

Y%K z8

, -P_ G 6... z -/ 8K K K K% -6/- ... **K**%1—8z **K**%z %z 76 z8 **K**\$z--%8z...6% A z7
z6.. **K**% **K**W) u H -6876% 76 z8 **K**\$z--%8z...6% **W**\$\delta 67-\frac{1}{2}-76 z8 **K**\$z--%8z...6% **W**\$\delta 67-\frac{1}{2}-8z \delta 67-\delta 67-\delta 67-\delta 87-\delta 67-\delta 67

Y%K z8

Y%K z8_

Y%K z8

, -i _ d- z Kz8 w w w : - - Ksz K KQz q--Kz q-%z%/- 8K K7 K-%6 6 -/ 6% 6; zz..z%_ GKqQ- V//_ -, _

Y%K z8

,-n_ p%qz QzwyVV K;%z8 QzV; zz..z% KQwww: WQzwww: Hd- q-% 6q 6 /k%6-Kz8/- d- 8K K7 K-%-/www: -8 qz8wyVVzz%_GKqQ- V//_-M_ Y%K z8

, . L_ V 6 -/ w w w : V; zz.. z% KQd- Wz z% / -...6—w yVV - %6.. z% 6 z 8K KZ z8 /- 8z-6- z8 ' g Q- ; Qd- _ GKqQ- V//_ - M

Y%K z8 Q6 z z% / -...wyVV - %6..z% 6 z

8K KZ z8 7 8z-6-z8 'g Q-; Qd-_V//k86 K-/ '-88 5_5-6-¶Wh6\%_, nWML, LA ¶_IP. R

A5-6-¶ V// RWG MAK k% - \%...z\% z z\% 8K KZ z8 7 d- R

, , , , _ w w w : q-% 6q KQd- z Kz K%ML, , _ GKqQ- V//_ - M_ $Y\%K \quad z8_$

Y%K z8_

,.-_ 5-6-¶ - ¶z8 KQGKqQ- -8z z— Qz6//KH6 z -; 6... Q-; Q QKqQ

z-z-KK-% 6 K-%W z7 Kz W-Qz ...z8K6- -z - -8 q K-%q-... 6%kz q--8-7zq-..z

6//KH6 z KQw w w : /- - z -/ -8 qK% 6% 8K K7 K% w yVV z z% _5-6-¶ V//_

,-_

Y%K z8_

, . . _ ' Qz w yVV 818 % Q6 z 6 . . z Q-8 - z - qz /- . . . -%K- 18% K . . z816 — Kq1& _ 5 -6-¶ V//_ , -f GKqQ- V//_ M__

V K z8 6 % q z6 6 - Qz K. z z K-8 8 K% QKqQ Qz/6q
6 z Qz w yVV 8 K8 % Q6 z 6 .. z Q-8 - z - qz /- ...-% K- k% K .. z8 K6 - Kq Kz _

V88 K K-% - WQz GKqQ- V// k8 6 K q K 6 K-% 8-z % - Qz/6q _

, . P_ d Qz WQz w yVV 6 q=%qz %z8 67- Qz 6-K -/ -8 q K%-/ K z z% W 6%8 Qz K. 6; z Q6 z z 6 -qK6 z8 KQK z z% _ 5-6-¶ V//_ , - f GKqQ- V//_ MI_ $Y\%K z8_{-}$

Y%K z8

, . a_ V 6 -/ Qz 6//KH6 z -; 6...WGKqQ- -; 6%Kz8 6 .. zz k% KQ Qz z zq Kz 8Kzq- -/ Qz w Kq-%k%V -qK6 K-%-/ (GJ A 7-KqWG8 q6 K-%6-6% J - z %. z%RVqqz 5 Q6%/z-Aw V(5 RW-68 Kz Qz w V(5 -/ Qz w yVV 6//KH6 z -8 q K-% -; 6..._

GKqQ- V//_ M__

Y%K z8_

 $v \ K \ z8_(K - K)\% \ Qz \ q-\% \ 6q \ KQw \ w \ w : WQz \ w \ yVV$ $zqzKz8 \% 8Kzq \ z \ z\% z / -...(GJ \ qQ6\% - Q6 \ 7 - 68q6 \ -q6-; 6..z _ 5 - 6\P \ V //_W \ P_$ $, . \ n_ \ 1 \ z/-z \ Qz \ 6 //K \times z \ -; \ 6... WQz \ w \ yVV \ Q68 \ qQ6 \ ; z8 \ TML \ z \ z \ z\% /- \ -q6-(GJ)$ $qQ6\% - -/K - .6\% \ 7 - 68q6 \ 6 \ w \ yVV \ z \ z\% f \ \% z \ w \ w \ w : \ 6 //K \times z \ -; \ 6... Ww \ w \ w :$ $qQ6 \ ; z \ (GJ \ qQ6\% - TPL \ z \ z6 \ GKqQ- \ V //_M \ _$

-,

v K z8_(K – K, MK) Qz q-% 6q KQw w w : WQz w yVV

zqzKz8 % 8Kzq z z% z / -...(GJ qQ6%/z—Q6 7 –68q6 —q6-;6...z_5-6-¶ V//_W P_
, PL_ y% z %/- Qz 6//KH6 z /zzWw w w : 6¶z q6 z –/6—/ Qz –; 6%K6 K-%6—
z Kz...z% /- (GJ 6qqz W qQ6 ...6¶k) 6—%zqz 6 6 6%; z...z% KQ Qz —q6—qQ—; z Qz z-z KK-% 6 K-% z /- -8 q K-%_GKqQ- V//_ M__

Y%K z8

, P, _ p %qz Qz (GJ 6 K-%/K-.. Qz z z%WQz - K8z 6 ...6 z q- -/ Qz /K-.. w w w : W QKqQ z-- Qz v g v -%-K2z 6 w w w : 68... K2K 6 K z z z%z_GKqQ- V//_ MI_

Y%8K z8_

, PM_ ' Qz (GJ = 6 K-%; z = 6 Kz / -... Qz v g v = 6-z = GKqQ- V//_ MI_ Y%8 K = z8_

, P-_ k-(GJ 6 K-%Q6 q-...-6 K-%z8 67- - z/ z8 - - K8z Qz ... 6 z q- -/ Qz /K-.. - w w w : GKqQ- V// MI

v K z8W K...6 z K6—' Qz 1 –6 8 –/ v Kzq – –/ Qz w Kq-% K%

V –qK6 K-%–/ (GJ 5 Q6% z— – z8 %6% k... —6; 6 k% z% 8– k% Qz w w w : 6// k k6 z

–; 6..._ 5 6 8–% v zq—W a_p % z –/ Qz z6 –% /– Qz 1 –6 8 – z 6 Qz z Kz.. z% Q6

Qz (GJ 6 k-% z% z Qz (GJ k8z-_ 5 6 8–% v zq—WG _5 6 , RM_

, P. _ y% Qz /6—/ MLLi 6—% zWw w w : Q68 Pn 6// KH6 z Q- ; QK 6// KH6 z -; 6... GKqQ- V//_ Ma_

Y%K z8

, PP_ w w w : Q6 %- % z = -6% z z /- 6% 6// KH6 z z-6-K-% QK_ GKqQ-V//_ Maf 5-6-¶ V//_ , a_

Y%K z8

, Pl_ d- 6/zz -K.6 z—8z z .. K%z8 7 Qz w yVVWw w w : 6— 6% -%z z—z -8 qz 6% 8K K7 z 6 8zq-K%z8 z z% 6 w yVV - F z6 -%z z% - QKqQw w w : Q-8Qz K,Q 7 Q6 8zq-K%z8 -8 q K-%_GKqQ- V//_ -1_

v K z8_ w w w : qQ6 ; z 6/zz/- ... — Kq6.. z 6 y%z %z z6...

-/ T, WPLLW V//K86 K -/ h-Q%w_v zWh6%_MMWML, L Av¶_I-nRG_1 W QKqQK QK, Qz Q6%

Qz T, MPL Qz w yVV Q6 6 - z8W5-6-¶ V//_W , P_ V — WMLnF, L c z8K6 J K3z z z —

6 z8 Q6 A6R—z .. K K-% ; 6%z8W — KqKz z% – qz8 6% /zz z Kz8 K-7z 6 Qz — z

8 Kq z K-%-/ Qz K, Q Q-8z _ k z - v zq—WG _P6 , a_

, Pa_ www: Q6 % z z xxq z8 6 z z - -8 qz 6 8zq-18/28 z z%_ GKqQ- V//_ -1_

Y%K z8

Y%K z8

, Pn_ GKqQ- -¶ KQ z z%-Qz 6 z QK,Q qQ—6 Qz-Kq 6 -qK6 K-% /-8 qK% 6% 8K K7 K% QzK QK,Q qQ—6 Qz-Kq z z% W-Qz 6 /6..KH6 KQQ8K/z z% 6 z 688 z Qz/zz q z_GKqQ- V//_ -a_

Y%K z8

, 1 L_ 5-6-¶ K/6.. KH6 KQ Qz — KqKz 6%8 6q Kqz -/- Qz 6 z QK, Q qQ—6 Qz-Kq 6 -qK6 K-% KQ z zq - Qz -8 q K-%6%8 8K K7 K-%-/; 6.. z WK%q—8K%; Q6 Qz qQ6; z/- K8z- -8 q K-%- K%z %z z6.. K%, _5-6-¶ V//_ ,._

Y%K z8

, 1 , _ ' Qz w yVV 8zql\$z8 –%6/zz q z Q6 z Kz 6 z -%- z%K - 6 TMPL -- \mbox{Kz} \mbox{K} %z %z z6...6; 6.. z -8 qz8 KQ-%z q6.. z 6 \mbox{W} % T, WPL -- \mbox{Kz} \mbox{K} %z %z z6...6 ; 6.. z -8 qz8 KQ... -K- \mbox{z} -q6.. z 6 _ GkqQ- V//_ - i f 5 -6- $\mbox{\P}$ V//_ , P_ Y%K z8

 $, 1 \, \underline{M} \quad , 2 \, K \, / zz \quad q \quad z \quad 6 \quad 8z \ z \ ... \, \text{Re} \ 76 \ z8 \ -\%6 \ \% \ ... \ 7z \ -//6q \ - \ \text{WR} \ q \ - \ 8 \, \text{Re} \ , \ Qz \ / 6q \ - \ Qz \ / 2z \ qQ6 \ ; z8 \ 7 \ - \ Qz \quad 6 \ z \ 6 \ Qz \ - \ \text{Kq} \$ $6 \quad -q \, \text{Ke} \ K \, \% \ - \ \text{GKqQ} \ - \ V \, // \ - \ \text{nf} \ 5 \ - \ \P \ V \, // \ \ , 1 \ - \$

Y%K z8

,1-_ y\%8z z .. \text{K4K}; Qz /zz\W5-6-\mathbf{1} 6\% GKqQ- 6---\mathbf{1} z8 6 Qz 6--z -/ Qz
-8 q K-\%6\% Qz z - qz 8z - z8 - Qz --8 q K-\%_GKqQ- V//_ - nf 5-6-\mathbf{1} V//_ ,1_

Y\%K z8_

Y%K z8_

, 1 P_ 5-6-¶ 6% GKqQ- 8z z ... K/z 8 Q6 Qz ... - KGq6.. z 6 -8 q K-%-z 8 K z +-6

K8z K%z %z 8K K7 K-% -6-/- ... Q6 z- -z 6 z 67-z - zz - -8F K8zW Qz z 6 6 K% -z

q6.. z 6-q6-(GJ 6 K-% -8 q K-% K Q- %-%- Q-; Q Qz z-z KK-%.. z 8 K .../
8K K7 K-%- Qz -q6-q-.... %K W6% K 6%.. K z 8 -% 6 6 z 18z-6- z 8 7 6 K 6% % - Kz _

GKqQ- V//_ -nf 5-6-¶ V//_ , 1__

Y%K z8

, 11 _ w w w : Q6 %z z qQ6 ; z8 6% QK% - Qz Q6% Q6 Qz w yVV Q6 8z z ... K%z8 -7z Qz 6 - K6 z/zz/- 6//KK6 z -8 q K-%_5-6-¶ V//_ , a_ $v \ K \ z 8_w \ w \ w : \ qQ6 \ ; z \ ... - z /- \ ... - \text{KEq6}... z \ 6 \ y\%z \ \%z \ z 6...$ $Q6\% \ Qz \ /zz \ Qz \ w \ yVV \ Q6 \ 8z \ z \ .. \ \text{KEq8} \ K \ 6 \ - \ \text{K6} \ z_- \qquad 5 \ -6 \ \P \ V//_ \ , P \ A\!\Gamma, MPL/-$ $... - \text{KEq6}... z \ 6R \qquad v \ z \ V//_WG \ _1 \ A\!T, PLL/- \ ... - \text{KEq6}... z \ 6R_$

, l a_ V 6 -/ Qz V; zz..z% KQ Qz w yVVWw w w : 6; zz8 - - K8z K8z-8 q K-% z - qz - Qz w yVV 6 %-q- - Qz w yVV_5-6-¶ V//_ nf GKqQ- V//_ Mf_

Y% K z8 qQ -8 q K-% z - qz 6 z 6 6K-67-z- - Qz w yVV

_ V//K86 K-/ 'K..GKqQ- W66%_, PWWL, LA ¶ _I PPRG _5 6 g yA6RAw w w :
5-% 6q RAz... Q6 K 688z8R_

, l i _ w w w : /K... W28K W6% ... 6¶z 6 6K67-z-% K66_ WQz w yVV ... zz k% W qQ6 Qz w yVV z6 -%6— -z-k%z z 6 K-%... zz k% W- Q6 ... z... 7z 6% Qz
7-Kq q6%6qqz qQ... zz k% KQ- 6 z%k% k% z -%_5-6-¶ V//_ nf GKqQ- V//_ Mf__
Y%8K z8_

, l n_ w w w : /K... V6% ... 6¶z 6 6K67-z-% K66_ -K-zWQz w yVV V%% 6—
c zz k% W- Q6 ... z... 7z 6% Qz 7-Kq q6%6qqz qQ... zz k% KQ- 6 z% k% k% z -%
5-6-¶ V//_ nf GKqQ- V//_ Mb_

v K z8_p %— Qz MLLn V%% 6—e zz k% K 6 6k67-z—% k66_ _
) zq-% g z-8-6%V//_W . _

, a L_ ' Qz z z Kqz 6— 6 z .. z z 6% z z%z W6% 6— K%q z 6 z 8 7-Kq 6qqz - w yVV K%- .. 6 K-%WQz z 7 -.. - K% Qz KKKK -/ Qz w yVV W6% - K% Qz .. . 6 ¶z K% 6% 7 6% K% -/ Qz w yVV_5 -6-¶ V//_ nf GKqQ- V//_ Mh_

Y% K z 8

 $\label{eq:control_co$

, a-_ www:; Kz Qz 6 6 8 Re% z 6 vg v q- -/ Qz z z%_5-6-¶ V//_ nf GKqQ- V//_ Mn_

Y%K z8

, a. _ w w w : /K... W28K W6% ... 6¶z 6 6K67-z... % K66_ WQz 6%% 6-w V) 5) KK-/ G qz-z%qz V 6 8 qz z...-% _ 5-6-¶ V//_ nf GKqQ- V//_ Mh_

, aP_ www: /K... k%z kz -/ Qz z z%z 6 QzwV)5) KK-/G qz-z%qz

V 68 qz z...-% W QKqQK k%q-8z k% Qz/k%6---8 q K-%-/ Qz 6 68 qz z...-% 6 z_5-6-¶

V//_ nf GKqQ- V//_ Mb_

Y%K z8

, al_ w w w : Qz— -..-z Qz 6 6 8 qz z..-% 6 - %6..z% 7 Q- 1%; Qz 6 z
-% Qz 18z-7-6 8 6 6 K- z% z _5-6-¶ V//_ nf GKqQ- V//_ Mh_

Y%K z8

, aa_ V z% z Qz w yVV Q- qQ6... K-%QK - %6..z% Ww w w : - K8z -Kz ; 6.. z / zz8 - Qz K8z-7-68_5-6-¶ V//_ nf GKqQ- V//_ Mh_

Y%K z8_

, ai _ k - ..6—WQz z% z K z+qQ6 ; z 6-6-; z/zz - - 18z - Kz ; 6..z/zz8 - Qz 18z - 7-6 8 _ 5-6-¶ V//_ nf GKqQ- V//_ Mh_

Y%K z8

, an_ y% z68 -/ QKR% -..z-%z / -... Qz z% z - - K8z / zz8 - Qz K8z-7-6 8W w w w : Q6 -- Q zz z 6 6// ...z..7z z z% 6 Qz z z% -- z-- - \P -% Qz K8z-7-6 8 / zz8W6-6 % q- - Qz w yVV_5-6- \P V//_ nf GKqQ- V//_ Mf_

Y%K z8

, i L_ w w w : -8 qz QK,QK,Q z; ..z% / -...- Qz w yVV -%- z8 zq K%
- %6..z% W6% 8-z zq6 KQ K8z-/ -...- Qz w yVV 6 z qQ6... K%QK - %6..z% WQ6

w w w : z z% 6% /zz8 - Qz K8z-7-686 w yVV qQ6... K%QK - %6..z% _ 5-6-¶ V//_

nf GKqQ- V//_ Mf_

Y%K z8

, i, _ www: /K... 6 K% -K%zF WK% -8 q K-% K8z- W6%8H z6... K8z- Q6 K Q- -% Qz K8z-7-6866--- %6..z% Q6 Q6 z K8z-7-68 q6 67KK _5-6-¶ V//_ nf GKqQ- V//_ Mh_

Y%K z8

, i \underline{M} www: q z6 z 7-Kq z Kqz 6%-6 %qz..z% Q6 Qz wyVV 6% ..z..7z qQ—q6%8K -6 -% K8z-7-6 8 6 z z% 6% Q6 6 z 8K -6 z8 -% K66_ _5-6-¶ V//_ nf GKqQ- V//_ Mh_

Y%K z8

, i - _) k%qz Qz w yVV /K 7z; 6%8Kq k% Qz -z / w w w : k% -8 qk% 6%8

8K K7 k% w yVV z z% W5-6-¶ z6-Kz8 Q6 k%z %z z6..k% 6 6%K.. - 6% zqQ%--; kq6-
8z z--..z% Q6 - -8-%zz8 - 7z 688 z z8 KQ z zq - 8K K7 K-%-/ w yVV z z% _

5-6-¶ V//__ , i _

Y%K z8

, i . _ y%/6q WK% Qz w yVV /K c z8K6 (—KqKz " z/z z%qz J K8z K%MLL-W5-6-¶
688 z z8 K%z %z z6..K% 6 68K K7 K-% -6-/- ..._ 5-6-¶ V//_ , i _

Y%K z8

, i P_) k%qz Qz%WGKqQ- 6%8 5-6-¶ Q6 z Q68 z; -6-8Kq K-% 67- k%z %z k8zz6..k% 6 6 8K K7 K-% -6-/-..._5-6-¶ V//_ , i f GKqQ- V//_ ML_

Y%K z8

, i l _ V _ 6 _ / QK _ -6% - _ -8 qz 6% 8K K7 z w yVV z z% WGKqQ - _ Q68 _ - _ z8 Q6 K% z %z _ z6.. K% _ -8-7z -%z -/ Qz 8K K7 K-% _ -6-/- ... _ 5 _ -6-¶ V//_ , n_ _

v K $\,$ z8 6 Qz6 6 $\,$ ' QK /6q K % $\,$ $\,$ $\,$ z8 7 68.. K $\,$ K $\,$ $\,$ z

z k z

, i a_ GKqQ- 6— Q68 -- z8 Q6 6 6 -/ w w w : 8K K7 K-%z//- WQz -- 8q z6 z 6%-%-K2z -- z q-%6K2K6 Qz %6.. z w yVV /- z K%.. 6 ¶z K6 6% 8K K7 K6 w yVV - %6.. z% z Kz 6% qQ6... K-%QK q-%z%_5-6-¶ V//_, n_

v K z8 6 Qz6 6 _ ' QK /6q K % - z8 7 68..K K/ z-

z Ksz%qz

 $v~K~z8_~'~Qz~6//$ **K6**%~K~%-~q-...~z~z%~-~z~K~Q6~w~yVV~y%z~%z~Kz~%zz8~-7z~7~6%8z8

, i n_ 5-6-¶ 6; zz8 Q6 K 6 K.. - 6% Q6 Qz w yVV %6.. z 7z 6 -qK6 z8 KQ Qz K8z - 8K K7 K% -6/- ... W6% Q6 Qz w yVV Q- -8-7z Qz 8z $\frac{1}{2}$ K% K% - $\frac{1}{2}$ K% - K% /- K - % z z% W7 - 8- QKWQz w yVV %zz8z8 6 zQKq-z-Q- ; Q QKqQ Qz q- $\frac{1}{2}$ K9Q6% z6... Qz $\frac{1}{2}$ K8z--/ w yVV z z% _ 5-6-¶ V//_ , n_

Y%K z8

, n, _ 16 z8 -% Qz z q-% K8z 6 K-% WGKqQ- 6%8 5-6-¶ q z6 z8 Qz z7 - 6-¶% % 6 K66_ W QKqQK --q6 z8 6 Q tHH K66_ H 5-6-¶ V//_ MLf GKqQ- V//_ ML_

Y%K z8_

Y%K z8

, n-_ ' Qz K66_ z7 - 6-q-%6k% 6—Kz 6% 6 qQKz8 K8z- -/ w yVV z z% /6—w yVV zq-; %Kz8 - Q6 w w w : -8 qz W6% 6—Kz 6% 6 qQKz8 K8z- /- w yVV
..zz k% Q6 w w w : -8 qz W qQ6 - ..zz k% A.zz k% /- zqkkq - qQ6
76 ¶z 76— z -k% kW -z ..zz k% W z q-%z z%qz W6% Qz 6% 6-..zz k% _ 5-6-¶ V//_
ML_

Y%K z8

, n. _ ' Qz - 6-q-%6k% Qz w yVV --; -6% 6-k%¶ - Qz w yVV z7 KzW₁-z6 -
k8z%k k% K q-%/zq k-% -6% qz..z%k% K z-6-k-%Qk KQ Qz w yVV 5-6-¶ V//_ ML_

Y%k z8_

, nP_ w w w : - z 6 z 6% ...6%; z Qz K66_ z7 - 6- w yVV 6 6 -/ K q-% 6q 6—z -% K7 KKK 6% 6 % q- - Qz w yVV_ 5 -6-9 V//_ ML_ Y% K z8

, nl_ 'Qz w yVV Q6 q-% — z Qz q-%z% Q6 K -6qz8 -% K66_ WK4q-8K46 Q6

K 8K -6-z8W Qz%X6% Q- W-z% z K - 6% K q-%K z% KQ Qz .. K K-%6% - z

-/ Qz w yVV_5-6-¶ V//_ M_f GKqQ- V//_ ML_

Y%K z8_

, nn_ ' Qz w yVV Q6 q-% --- z Qz 68 z KR% -% Qz z7 Kz_5-6-¶ V//_ M__ Y%K z8_

Y%K z8_

 $ML, \quad \text{`Qz w yVV Q6 7z; } \%6 \text{ K----; } 6... - \text{ z Qz } \text{ K66}_ - 6--- \text{ Qz } 7z\%z/K-/$ $\text{w yVV } ..z ... 7z \quad 7 \quad \text{K\%} \text{ Qz } - 6-6 \quad 6 \quad z\text{QKq-z-/-} \quad ..z ... 7z \quad q\text{Q-------Kz} \quad z6... \text{ QzK---\%}$

Y%K z8

Y%K z8

M.-_ ' Qz w yVV 6%KqK 6 z Qz K66_ 6—— Q6 z ; z6 z%K6—— K .. z...7z _ 5 – 6 \mathbb{Q} V//_ MM_

Y%K z8

M.__ 'Qz - 6— - K2z ...z...7z qQ— KQ6 6/z Q6 z% - -6qz K K2-q-%z%W
6%8 ...z...7z qQ— 8- % Q6 z - - 67- %z; 6 Kz 68 z KK% - K.6; z 6 -qK6 z8 KQ
QzK K2-q-%z% 5-6-¶ V// MM

Y%K z8

MIP_ V-Q-; Q%- w yVV z z% z z -//z z8 -% Qz k%z %z k%MLL H.PWk%MLli H.nW

Qz K66_ z7 - 6—6%...K z8 i M-K-z w yVV z z% 6% , i M-%6 qQK z8 z6...6% v g v

k%q—8k% z z% / -...z6qQ-/ Qz w yVV MP - _ 5-6-¶ V//_ i fk z - v zq—G _ML6 MP_

v K z8_, aP; 6...z z z 6 qQK z z6...z8 k%MLli H.n_) zq-%8

) 6%6 c 6 K6 v zq—VG _V 6 aFi A/%z -; _k - P 6%8 "z _ - y%z -; _k - PR_

MLI_ p / Qz z z% -//z z8 -% K66_ W6 - K.6 z—, -. z z %8z Qz w w w :
q-% 6q KQw yVVW QKz-6 - K.6 z—. i z z d— 76—) 6 z dk% - WI - 6%8 J K—
16 ¶ z 76—) 6 z '- %6.. z% W6%8 m-q¶z) 6 z dk% - 5-6-¶ V// i

Y%K z8 - Qz z z% Q6 Qz z/z z%qz8 z z% W% ...7z k%, i M
k% - 6-W.6 Q6 z 7zz%-Kz 6 qQK z z6.. z8_ p %--, aP; 6.. z W- 6-W z z 6 qQK z8
z6.. z8_) zq-%) 6%6 c 6 K6 v zq-WG _V 6 aFi A/%z -; _k-_P 6%8 " z _ - y%z -; _k-_
PR_

Y%K z8

- p q -7z M WMLi W zz%l 6 (z7-z-mk,Q) qQ-___V -z-%k Q mk,Q) qQ-__t V v -z-%k Qmk,Q) qQ-_f
- p q -7z M WMLi Wk z u-%-%mK Q) qQ—__w 6 6q6 mK Q) qQ—W 6 w 6 6q6 mK Q) qQ—f
- k z...7z , WMLi W -z -%k QmK,Q) qQ -___16 (- mK,Q) qQ --- _16 (- mK,Q) qQ --- _16 %
- k z...7z i WMLi W -z-%k QmK,Q) qQ---__) z z% (-K% V z6 mK,Q) qQ----__) z z% (-K% V z6 mK,Q) qQ----

 $v z/z\%6\% 5 - \%z q-6K..W \P_k-M - n_$

Y%K z8_

Y%K z8_

 $v K = z8_y\%k - z...7z$ MLLi WGKqQ- q-%6q z8 Qz

T 7 z...6K-z; 6 8K%, Q6 %z 6 z - K%, -/ 6%y%z %z z6... -8 qz8 7 T 6% ...68z Qz 67- zFqKz8 z z g v z V//_WG _1_

M M \underline{M} \underline{T} \underline{z} \underline{z} 8 6% Q6 % - 6% Qz K,Q $\underline{/zz}$ - K28 6 v g v - w w w : $\underline{-GKqQ}$ - V// $\underline{-}$...

Y%K z8

M-_ 5-6-¶ 818 % 6 Q- KzW-%7zQ6-/--/ Qz w yVV - w w w : W6% ..z816

-; 6%K6 K-% -- K-z z6...6% w yVVF -% - z8 - %6..z% KQ- 6 K% Qz z Kz8 KQ

/zz/- qQ z6.. K% WK4-8K% Qz/- w yVVF -% - z8/-- 76---- %6..z% Q6 T

6%.. K z8 7 - K-z K%z %z z6.. K% K%p q -7z 6%8 k - z...7z -/ MLLi_5-6-¶ V//_

--, _

Y%K z8

M. _ y%k - z...7z -/ MLi W 6%%z %z 6 z 6 z... z8 - z6.../- w yVV z z% W6% /6Kz8 --7 6k% z ... K K-%6% 6 6 K,Q /zz_ GKqQ- V//_ . P_ Y%K z8

. -

 $MP_{-} d - ... MLL, RMLL- WQz w yVV q - \% 6q z8 -; 6\% Qz \% \%z q -- Kz KQ - g K 6 -- y... 6; z (Q--; 6 Q W / q_A g y (R-z-Q--6% K... 6; z -/6-6 z - \% ... z %/k 6 -- 5 Q kq z k / y V//_- - M$

Y%K z8

M1_ y%MLL. WQz w yVV q-% 6q z8 -; 6% Qz z q-Kz K;Q -g y(- z-Q-6% K. 6; z -/6-6 z - %..z%/k6-%-_5 Qkq¶z k% V//_ -M_

Y%K z8

M.a. 'Qz MLL. q—% 6q KQg y(6 /- 6 , F z6 z ...6% z Kz8 K%MLP_ 5 QK¶z K% V// - M

Y%K z8

Mi_ y%MLPWQz w yVV q-% 6q z8 -; 6% Qz z q—Kz K;Q -g y(- z—Q-6% K.6; z -/ 6—6 z - %6..z% R%q—8R% 6 z /R%6—6% z..KR%6—_5 QKq¶z R% V//_ -M_
Y%K z8

M,n_ 'Qz MLLP q—% 6q KQg y(6 /- 6 - F z6 z ...6% z Kz8 K%MLi _ 5 QK¶z K% V// - M

Y%K z8_

Y%K z8

. .

Y%K z8

MMM_ 'QzwyVV z%sz8z%-qz..z%-/K Q--; 6 Q — Kq /- qz8z%K6-z8
..z8K6 k% Qzz -/ MLLa 6%s 5 QKq¶z k%; %- KKx8 Qz ..z8K6 k%67- h — / MLLa Q6 QzwyVV - -8-%- z%- qz K Q--; 6 Q — Kq _ 5 QKq¶z k%; V//_ --f5-6-¶ V//_ M_

Y%8K z8_

Y%K z8

MMP_ G//zq Kz KQ Qz MLInFML, L c z8K6 (—KqKz WQz w yVV qQ6% z8 K Q--; 6 Q

—Kq -7z q-%K z% KQ Qz h —MLIa z%- qz..z% z%K-%6%8 Qz MLIi g y(q-% 6q_

5-6-¶ V//_ MPf 5 QKq¶z R% V//_ -._

Y%K z8 Q6 %8z Qz MLLi g y(q-% 6q w k V .. z.. 7z
%z 6 z 6 z % -QK7Kz8 / -... z-K6, Q--; 6 Q 6¶z%6 w yVVF) -%- z8 z z% Qz 7-Kq / -... QzK z7 Kz _

 $\begin{aligned} & \text{MM}_ \quad \text{`Qz MLInFML, L} \quad -\text{Kq} \quad 6 --- \quad \text{Qz} \quad 6 -\text{z} -- \quad \text{z} \quad 6 -\text{z} -- \mid \text{K} --\text{Q} -- \mid \text{f} \quad \text{Q} \quad 7 \quad \text{w yVVF} \\ & \text{q z8z\%K6-z8} \dots \text{z8K6}_5 -6 -\P \text{ V//}_ \quad \text{MPfkz} - \text{vzq}_G _P \text{ 6 l}_ \end{aligned}$

Y%K z8

Y%K z8

Y%K z8

Y%K z8

 $v \ K \ z8_' \ Qz \ w \ yVV \ z \ Kz \ 6 \ TMP/zz/-.....z8K6 \ KQK% -6 \ ... K-K-z \ 6 \ 8K \ z \ - \ 86 \ z \ - \ 6 \ z \ / \ K \ 2 - \ v \ zq-WG \ _P \ 6 \ , a_$

 $M_{,-}$ 'Qz w yVV 8-z -QXK -6-F7 F -6- KQ- 6 .. z%-/ Qz /zz W Qz Qz qQ -6-F7 F -6- 6 z6 -%67--; W z7 KzW - Qz Kz_5-6-¶ V//_ MIfk z - v zq_G_P 6 .. -

Y%K z8

MM_ 'QzwyWV 8z/k%z -6-F7 F -6-6 -K-z 6%8 8z 6K-z8W -¶z%- Kz%Wz; -6-z% kz -/8z q K K-%W 8z kq K-% -/ Qz - z z% 6 Qz 6 z Q6 z %k% W Qz 6q 6—6q K-%6 K-qq Wk-q-8k% Qz q-%k%- z z %K6-8z 6K-z8 8z q K K-%-/ -6-W/z z% W-Qz ...6 z K6- qQ6 ; 6 Qkq - k8z-z; 6 8k% 6% w yVV - %6...z%; 6...zW-Q6 K 6 - K.6 z 6 k8z-6 8 8 6%...K K-% Q6 6— Qz zqK k2% - z z kz%qz Qz; 6...z 6 K -qq _5-6-¶ V//_ Mfk z - v zq-G _P6 , , _

v K z8_ ' Qz w yVV 8z/k%z -Kz - z6-FK.z -6-F7 F -6-6
6%...K k% 6-Kz A QKz-Qz z z%H,6..z K k% -; z /-...7z; k%k% - q-%q- K-%R K z%W
6 8K- k8z-8z q K K-%Ak8z%K k% q-... z K- KQ8z q K K-% - z --/; 6..z 6q K-%R
-/ 6--- 6 K,9kKkq6% % ...7z -/ -6- Hz z% -qq k% z z%k6---8 k% 6; 6..zHz z%_
k z - v zq-G_P6, , A z ... I-R

M-_ d— k% Qz MLi d— 76—) 6 z dk% — W5 — ¶ 8Kq- z z8 6/ z Qz /6q Q6 — ...z8K6-; 6%K6 K% W6 68K-%q-...Av Kq-%k%) 6 z h- %6—6%8 5 6 K6—'K. z —; z Qz R6%8 Qz c K—6 ¶zz h- %6—f) z%k%z—WQ68 z% 6; z8 k%-Kz —6-F7 F—6-7—; ; k% _ 5—6-¶ V//_ M1_

Y%K z8

Y%K z8

M1_ 'Qz k%qk8z% KQc 68K-%q-...6% Qz c K-6 ¶zz h- %6-F)z%k%z--... z8

8Kq K-% KQ Qz ...z8K6 67- Qz 7--;; k%; -kqkz _5-6-¶ V//_ M__

Ma_ y%z6 —v zqz..7z -/ MLi W5 -6-¶ K%- ..z8 z z 6— - z8K- Q6 Qz w yVV

6 K-K%; - - ¶ KQ Qz ..z8K6 - 8z z— 6%6; zz..z% 6 - Q6 - -8-7z z ..K z8 -%6

z6-FK. z 7—; / -... - %6..z% z Kz z z% _ 5-6-¶ V//_ M__

Y%K z8

Y%K z8_

 $Mn_{-} 5 - 6 - \$ 6; zz8 - 8 - Qz R\% - Kqz /- Qz - 6 - F7 F - 6 - KQ Qz z zq 6 K-\% Q6 \\ Qz ... z8K6 - - 8 - z6qQq-\% z\% - \% Qz K z 6\% z z\% 6 - Kq - 5 - 6 - \$ 5 - 6 - \$ V//_ MI_{-} \\ Y\% K z8_{-}$

ML_ y%... k8 6% -6-z v zqz...7z -/ MLi W5 -6-¶ 6--- 8Kq z8 KQ(z z d-- WQz (z k8z%-/ Qz w Kq-%k%k z 6 z V -qk6 K-%WQz 7--;; k% K zW6% Q6 Qz w yVV 6 K-k% -8Kq 6 z6 -%67-z-8z/k%k-%-/ Qz Qz Q-8-/- 6-k-z 8z kq K-%-/ 6q k-%k%7--; _ 5-6-¶ V//_ Mb_

v~K~z8-%--~Qz~z~z% (~z~z~d-~K-z-K~G~zq~Kz~v~Kzq-~-/ Qz w Kq-% R% kz~6~z~V~-q K $\times \%_{-}$

Y%K z8

MM_ GKqQ- 8z z ...K/28 Q6 6%% 6—WK q- w w w : TPLi WLl -/ /K-w w w : q-% 6q 6-q-....K..z% - Qz w yVVW QKqQ K/q-8z Qz /--- K% q6 z; - Kz t w yVV 6 z - %6..z% z z% -8 q K-%q- K% Qz /Kz-8f w yVV 6 z - %6..z% z z% - F/Kz-8- -8 q K-%q- f w yVV qQ6% z--- -8 q K-%f w yVV 6 z - %6..z% z z% z -8 q K-%f K66_ Qz /Kz-8f w yVV 6 z - %6..z% z z% z -8 q K-%f K66_ Qz /Kz-8f w yVV 6 z - %6..z% z z% z -8 q K-%f K66_ Qz /Kz-8f w yVV - ...zz K/z z 26..K/z f w yVV - ...zz K/z -8 q K-%f 6%8 -8 q K-%f -9 q K-%f -9

Y%K z8_

 $M-_ 'QzV; zz..z\% KQwww: 7 6\% 6 - 7z\% K QzwyVV 6\% K ...z..7z$ $\% ... -K-z 6 _ 5 Q 6 V/_ MFM _$

 $v~K~~z8~-~Qz~z~~z\%~~7~~6\% \mbox{K6---}7z\% \mbox{z/}K~~K~~6;~~z_$

Y%K z8

MP_ V% Qz 7z% KK Q6 Qz w yVV ¶zz 6—/ Qz z z% z / -...K q-% 6q
6 % z /- K - % K% z % -- z 6 K-% W6% 8-z % -- 6%/z 6% -/ Q6 z z% z -- Qz) 6 z -/
w Kq-% K% W-6% 6 z 6; z% w W--; z% z 6—6 z / % _5 QK ¶z K% V//_ M_

Y%K z8

M1_ 'Qz z z%z/-...K q-% 6q 6 %z 6— QzwyVV - z 6%86Qz-Kq
-; 6...- - %KKz /- K ...z..7z /- 6—wyVVFzq-; %Kz8 - WKq-8K% - K8K%
z z%z/- Q- z - Q6 QzwyVV Kq6— 7 k8Kz - /- Q- z - KQK5%KKq6% 7-Kq6 z%86%qz 5 QKq¶z K% V// M

v K z8 6 k%q-... z-z_c -%z K/ % k7-z-6%8 Qz w yVV 7 8; z

K % z; z; 6 z8 6 QK 6 z K-% ;; z _ ' Qz - E -/ K z z%z Q6 q-..z / -... Qz

w yVV q-% 6q 6 %z K 6 kz8 - 6--- %6..z%z z%z WX kqz Qz %z6 --i 1 E -/ K

z z%z/-... - %6..z% 68..K K-%_

 $v \ K \ z8 \ 6 \ R _ - ... \ - z - z _ 1 \ zq6 \ z - / \ Qz \ V; \ zz ... z \% W Qz \ z \ 6 \ z \ - ... z$ $zq \ K _ - 6 \% \ z; \ K _ - 6 ... z \ Q6 \ 6 \ z \% - 7 z R _ 6 \ 6 \ z \ 6 \% ... \ K \ z8 \ Q6 \ - - 8 - Q6 \ z \ 7 z z \% R _ 6$ $Qz \ 67 \ z _ - 7$

Mi_ 'Q-;Q Qz w w w: q-% 6q WQz w yVV Q6 6qQkz z8 688KK-%-8K K7 K-%
6% z6..k% -/ - %6..z% Q6 z z %- 6%..Kz8 7z/- zWk/q-8k% 6---6 z - %6..z% W
6% z; K-%-6% zq K-%-q-... z KK-% 5 Qkq¶z k% V// MP

Y%K z8 Q6 w w w : K % z6.. K% 6—6 z − %.. z%_ "z −%z k − Ma A−.. z −q6−6qqz qQ6%z— K−− −8 qK% z; K-%6−6% zq K-%-R_v K z8 Q6 K-MLi 6—z; K-%-6% zq K-%-6 z z6..z8_)zq-% g z-8-6%V//_W , . AMM . z; K-%-flaa zq K-%-K-MLi Rf 5-6-¶ V//_W , i A,-. z z% W K-8K-8K-6/8 /K-8-% - 6% - w w w : q-% 6q R_

v K z8_ ' Qz qK6 K-%8-z %- - Qz /6q Q6 Qz w yVV Q6
z %z8 6% ...-%z - Qz qQ---- Q6 K - -8-%- Q6 z - Qz Kz z %z8 7zq6 z -/
w w w : z Kqz - Q6 Q- qQ----8-%- -- z ...-%z -%Q- k% 6%z z%_

MPL_ www: z Kqz Q6 z Kqq z6 z8 Qz w yVV z - z - Qz 7-Kq 6%8 Qz

7-Kq 6 KqK 6 K-%K% Qz w yVV 7 ...6¶K% 6 6K-67-z-w yVV ...zz K% 6%8 z z% -% K66_
6 %-q- - Qz w yVV_5 QKq¶z K% V//_ M__

Y%K z8

v K z8_w yVV q-% — Qz 6 -qK6 K-%-/ QK; Q qQ — - KQ

K6 - K6 z ; —8 6% z Kqz A qQ6 ; 6...7-K6; W6-q-Q-W-76qq-W6% 68 — z%z 6K6. z%R

Q- ; Q68 z KK6; z Kq K-% 6 - K28 - 6-q z8z%K6-z8 .. z8K6 k z - v zq-W6 P 6 , 1

MPM_ w KQ- Qz z z% z / -...K z q—Kz q—% 6q 6 %z WQz w yVV - -8-% 7z
67-z--6//-8 - 7 K8Kz 6---/K zq-; %Kz8 - WQz z7 8z KK%; K ...z...7z 6%8 QzK
8z% 6 Qz-z -/6 Qz-Kq - - %KKz_5 QKq¶z K%; V//_ -P_

v K z8_ ' QK q-%q- K-%K zq -6-Kz 6% Q6 %-/6q 6-- - _

v K z8_' Qz z ... 6//- 867-z- K 6; z_V88KK-%6—WQz z K %-/6q 6— - Q6 Qz-%— 6 w yVV q— & z -6qz Qz z q—Kz q—% 6q z z% z K 7 6KR% Kq¶z Kqz 6 Qz Q6% Q—; Q -.. z - Qz R%q z6 zW qQ6 6KR% -//KqK6—/zz W-7 q R% K 7 8; z

MP. _ w KQ- Qz z z% z / -...K z q—Kz q—% 6q 6 %z WQz w yVV ..z...7z QK

- -8-6 — -z q-% — z Qz ...z 6; z Q6 6 6 -qK6 z8 KQ QzK — -%6 6 Qz-Kq

6 -qK6 K-%6%8 K 67KK - -...- z Qz ...z...7z K8z6—6 6 z8 k% Qz -; 6%K6 K-%

q-% K K-% 5 QK4¶z k% V//_ - P_

v K z8 6 zq -6-Kz_

MPP_ w KQ- Qz z z% z / -...K z q— Kz q-% 6q 6 %z WQz w yVV - -8-%-7z
67-z-- K8z Qz q- Fz//zq Kz z Kqz - K ...z...7z Q6 K zqzKz /- / zz / -...w w w : _
5 QKq¶z K% V//_ - P_

MPl_ w w w : q- -8-% - z 6 z 6 6 -/K KQ- Qz z q- Kz q-% 6q KQ Qz w yVVWzq6 z K-%- zqzKz z z% z / -...8K KZ K-%6% 68 z KK% W%- / -...K%z %z

z6... k% W6% K 8K k7 k-% 6 % 68 88 z Kz z Kz z q-Kzq-%z%_GkqQ-V//_...

Y%K z8W K...6 z K6—w Qz Qz 6 K6 z QK8F 6 q-...6% q6%...6¶z 6 -/K KQ- z q--KK K%- ...6 z K6--- 8z z ...K2K% Qz Qz Qz 5-% K K-% z ...K Qz w yVV -; 6% qQz q--KK_

MPa_ 'Qz z K 6 K8z— zq-; %Kz8 8K K%q K-%7z zz% 6; 6.. zW QKqQ

K 6—6% %z -; 6%K6 K-%q6%8−W6%8 6 q-... -z-z 7 −68q6 - z6...-/6; 6.. zW

QKqQK -K-Kz8 - Qz 6 - K6 z K,Q Q-8z m- v zq- Pl_

v K z8W K...6 z K6—' Qz /6q K %q z6 t %zKQz Qz z ...

q- z k% %- q6 k% 6 z 8z/k%z8 6% Qz z k% Qz m- v zq-6-6 k%_c c - z- z W K z% Qz
-6q¶ -/ 8z/k%k% WQz z K..-% - k% Qk 6 z k-%-6q¶ Qz z Kkz/6q 6— - _
' Qz 8K zWQ- z z K K...6 z k6—w Qz Qz 6 6 z 6q - ...6 z kq 6 ...z..7z -/ Qz ...z8k6
/ -...zkQz q- z k% - q6 k% 6; 6...z q-%k z% kQ Qz z Kz...z% -/ Qz dK 6%8
d- zz%QV...z%s..z% K 6 z k-%-/ -6 k%sz z%sz%-/ 6% k%s q -...- 6q kqz_
MPi _ ' Qz w yVV Q6 - ksz8 6qz 6% zqQ%—; - ...6¶z z - k% -%w yVV
; 6...z ...- z q-% z%k6%/- q z8z%k6-z8 ...z8k6 m- v zq— M,

Y%K z8

MPn_ Y%8z w yVV — KqKz W%z 6 z Q6 z K 6—q-...-z-z 6qqz - Qz w yVV 6 Qz-Kq z z% K%-8z - z/-... QzK z zq z8 X %6-K-Kq/%q K-%WKz_W-/ — 8z q K/zW z -6K%W6% 6%6— z %z - Q z z% _ m- v zq— 1 L_

 $v \ K \ z8_' \ Qz \ z \ zq \ z8 \ X \ \%_{\bullet} - K \ K_{q} \ / \ \%_{q} \ K_{\%} - / \ \%_{z} \ 6 \ z \ - 86$ $K_{q} - 8z \ y\%_{z} \ \%_{z} \ z6... \ K_{\phi} - / \ 7 - K_{q} \ z \ z\%_{-} \ V / / \ K_{8} 6 \ K - / \ v \ 6\%_{w} \ u_{-} d - 6\%_{z} \ W_{1} \ M_{w} \ M_{L}, \ L$ $A \ \P_{I.} \ RAd - 6\%_{z} \ V / / \ RW \ 1 \ R_{-}$

 $v \ K \ z8_y\%z \%z \ z6.. \ k\% 6\%8 -6-F7 \ F -6-z - k\% 6 \ z$ $6-67-z - z - k\% \ zqQ\%K \ z \ 6\%8 \ zqQ\%-; \ Q-z \ z \ K \ -Qk7kz8 \ \%sz \ w \ yVV - kqkz$ $KQ- \ Qz \ w \ yVV \ K \ z \ .. \ K \ K\%_v \ z \ V//_W \ . \ PPWPF, 1 \ Wi \ F, \ nf \ d-6\%z \ V//_W \ , \ PPMM \ k \ z - v \ zq-\ VG \ P \ 6 \ , \ , \$

M, _ Y%8z Qz w yVV — KqKz W/z 6 z 6 z 67-z - z - -% Qz 8z 6K—6%8
- q-..z -/ Qz; 6..z WK/q—8K%; K8z76 W 6 K Kq W6%8 - Qz z-z 6% K%- ...6 K-%W6%8 K%K%
K% QzK z; -6-z8KK-% 6%8 -% QzK z7 Kz _ m- v zq— M, WPi _

v K z8_k z 6 z ...6 % z - -%8z 6K--/ 6; 6...z

Qz%z z Qz w yVV 8z z ...K%z Q- z 8z 6K-q-% K z -6-F7 F -6-8z q K K% - 6 z

z - z8 KQ...- z Q6% - ...K% z -/ K8z- z6...z8 - z Qz y%z %z _ k z - v zq _ WG _ P 6

, , WM_ y%688KK-%WQz 6 z K-%K 6; z /- % 8z/K/K%; Qz - Qz z-z-6% K%- ...6 K-%

QKQ Qz (-6K%K/ 6 z %z 6 z ...6 z - _

MIM_ k z 6 z ...6 z Q--; 6 Q -/ Qz z z% 6% Q6 z k% z kz 6qqz q-6qQz 6% 6 Qz-z _ m- v zq-_ M, WPi fk z - v zq-G _P 6 i F, L_

Y%K z8

Y%K z8

M. _ "z - z 6 z; z%z 6— z ..K z8 -/K...; 6.. z 6q K-%Wzq-8 z-z-6% 6 K Kq
6%8 - Qz; 6.. z k%- ... 6 K-% K6 6 8K- zq-8k% W6%8 z; --8W-8F/6 QK-%z8 z%-6 z k%
7-KQk% 6%8 -8 qk% - kz m- v zq- PP_

Y%K z8

MIP_ y K q-....-% 6q Kqz/- z - z q- z k% 6 Qz-Kq z z% - 7z z Kq z8 - zqKKq --q6 K-% 6% - Q6 z -K. K6 K-% -6qz8 --% Qz z K...z% Qz q6% zW- z 6... -zW-% Qz 67KK- -- K, k% 6 z 6 68K-7 -68q6 m- v zq-- Pl

Y%8K z8 Q6 z - z 6 z z Kq z8 - zqKKq --q6 K% 6%8

-/ z% 7¾xq -- Qz z6 -%67-z K. zW-6qz 6%8 ...6%%z z Kq K%W6%8 Q6 6 z - z

67KK -- K, k%6 z 6 68K-7 -68q6 ...6 7z 6//zq z8 7 qQ z Kq K-%_w Qz Qz 6%

6 Kq -6- 6q Kqz q-% K z 6 z6 -%67-z K. zW-6qz 6%8 ...6%%z z Kq K-%K 6/6q F zqKKq
z K-%-/-6-

M11_ y%688KK-%- Qz z 68KK-%-... z Q-8 -/ z - k% -%z z% W/z 6 z ...6
q6 -Kz 6 8K z6... -/ - %... z%; 6... z 7 6 k% 6%688KK-%--K,Q /zz -/ T. LPPL w yVV_m- v zq-_ , nWPi fk z - v zq-G_P 6 , n_

Y%8K z8 Q6 QzwyVV q z% — KqKz 6 Q-Kz QK z — K6, ...z Q-8f Qz q-% K K-%6—/ QK 6%8 — Qz wyVV ...z8K6 — KqKz K 6 z K-%-/-6- _

Ma_ kz 6 z q6% z — ...K% z -/ QK Q-K-Q — - Qz 6q K-%/- z — K6, - z A6%8 ...6 z qzz8 — ...K% z KQ Qz wyVV 6 — 6-RV6%8 q6% z — -K-z/-...

- %6...z% z%z K6, -Kz; 6...z 6q K-%6 6 76q¶8 — /- Qz z — ...-%6 Qz z K-%-6-F7 F -6- q-....z%6 _ m- v z q- , a W n W P n f k z - v z q- G _ - 6 P, W M6 P, W 6 , M P 6 , , F, M

v K z8 6 %q-z6 Q6 z - k%, - z z/z -_

V88KK-%6-W.- z Q6% - ...k% z -/ k8z-K z ...K z8 %8z Qz w yVV q z% ...z8k6

- kqkz 6 Qk, Qk, Q -%-Qz z; -6---- qQz8 -z8 %z - - 7 -68q6 KQ-- w yVV

z ...K k-%_k z - v zq-y6 _P 6 , M-g k8z-I-R_ ' Qz q-% K k-%6-k--/ 6% -/ Qz z - kqkz W

Q- $z z WK 6 z K\% - / -6 _$

v K z8_V TMPL z F, 6.. z / zz K z qz K z / - -.. z %z 6 z
6%8 Qz z .. K K-%w w w : z Kz K 6--- q-%8KK-%z8 - % z %8z - / - ¶ -8 q_v z
V//_W , af v z V//_WG _1_

v K z8_ 'Qz z zq 6 K-%-/ % a 6 z 6 8 Kz%qz -86 6 z %--K. Kz8 - QzK k% 7-Kq6 K-% 7 k%q-8z k8z-q- z 6; z -/ 7-Kq z z% 7 y%z % a z6.. k% d-698 a V//_W 1 Fn WM_

 $v \ K \ z86 \ \%_{l} - z6 \ W \ K...6 \ z \ K_{-} \ ' \ Qz \ / 6q \ 8-z \ \% - \ K_{2}\% \ K \\ Qz \ Qz \ - \ K_{0} \ z \ z\% \ z/z \ z8 - 6 \ z \ -\% - z87 \ 6 \ 6 \ z \ 6q - _$

MaM_) qQ — KqKz 6 z %zqz 6 76 z8 7- Q-% Qz 6 6K67KK-/ 6qz 6% Qz %zz8 - q-% — Qz q-%8 q -/ Qz; 6.. z_m- v zq— Plf) qQ.. K8 v zq— MIFM_

 $Mat-_ y K \% - Kq6 - 6 z - z - 6\% ... K Qz z\% Kz - / 6 - K \% z z\% - z Qz \\ K\%z \% Z K Qz \% ... z - / z - K \% _ m - v zq - Pl _$

v K z8W K...6 z K6—7zq6 z dK V..z%..z%/zz zzqQ

KQ 6% d— zz%QV..z%..z% z 6— - zq K-% K,Q 6 z K8z z%z%-/ Qz Qz Z-/
6 6 Kq -6 z - K6 zqQ/K z - zqQ/6—; K Kq6—

Mat. _ y% K 6—6—q6 z W -68q6 z 6% z - z ¶%- 6% z zq 6% z q—Kz KQ 6; zz..z% Q6 6 z K% -6qz /- Q6 z z%_ m- v zq— Pl_ v K z8W K...6 z K6_-' Qz /6q 6-76 K/- QK q-%q--K%K %-8Kq--z8 K% Qz m-- v zq-6-6 K-%_' Qz /6q WQ--z z WK K....6 z K6-7zq6 z K6 ...z Q6 z q--Kz K,Q 6; zz..z% 6 z -6 / -WQz qz% 6--z; 6-- z K-%7z/- z Qz q--

v K z8 6 %q-z6 _ ' Qz w yVV ...z8K6 — KqKz 6 — - 6 q z8z%K6-z8 ...z8K6 _ k z - v zq—VG _P 6 , _

Mall_ www: K%z z K%z q—KK W6%8 Qz w yVV K%z z K%-K.KK% K%z %z
6%...K K-% -/ K; 6...z WK q-... 6 67-z- - 6 %z 6 z - Kz z Kqz %zz8 - - zq K
-8 q / -... %6 - z8 z -%- Qz z7 Kz - 7-Kq6 K-% W W.- z 8Kzq ---% - K%W... qQ
-14 z c 6X uz6; z 1 6 z 76--- K%z z K% - QK7 KK% %6 Q- Kz8 z -/ Qz 7 - 68q6 -/ K
; 6...z KQ- Qz 68 6%qz K z%q-%z%-/ c 6X uz6; z 1 6 z 76--- W QKqQQ6 K z-/-z%z z 8
K%--- K,Q 6; zz...z% z-6-z8 - Q6 q-%z%_ m- v zq--- .i_

 $\begin{aligned} &\text{Maa} \quad \text{y K} \quad 6\%6 \; 8 \quad 6 \text{q Kqz K\%} \quad - \quad - \; ; \; 6\%\text{K} \; 6 \; \text{K\%W} - \text{Q} \quad -/\text{z} \quad \text{K\%} - 6\%8 \; \text{z} \; 8 \; \text{q} \; 6 \; \text{K\%} \cdot \text{W} \\ &-\; ; \; 6\% \; \text{z} \; \text{q} - \text{Kz} \; \text{K} \; \text{Q} \quad - \; 6 \; \text{Kq} \quad - 6 \quad ... \; \text{z} \; \text{K} \; 6 - ; \; 6\%\text{K} \; 6 \; \text{K\%} \cdot \text{-} \; \text{K\%} \; \text{q} \; \text{z} \; 6 \; \text{z} \; \text{Qz} \quad 6 - \text{z} - / \; \text{Qz} \; \text{K} \; \text{Q} \; \text{W} \; \text{W} \; \text{W} \\ &\text{Q} \quad \text{K\%} \; \text{q} \; \text{z} \; 6 \; \text{z} \; \; \text{z} \; \text{z} \; \text{w} \; \text{z} \; - \; \text{Qz} - ; \; 6\%\text{K} \; 6 \; \text{K\%} \cdot \text{m} - \; \text{v} \; \text{z} \; \text{q} - \; \text{MMF} \; . \; \text{W} \; \text{a} \; \text{F} \; \text{i} \; \text{f} \; \text{)} \; \text{q} \; \text{Q} \; . \; \text{K} \; \text{v} \; \text{z} \; \text{q} - \; \text{,} \; . \; \text{F} \; \text{l} \; \text{D} \\ &, \; \text{i} \; - \; \text{M} \; \text{A} \; \text{F} \; \text{i} \; \text{f} \; \text{j} \; \text{q} \; \text{Q} \; . \; \text{K} \; \text{v} \; \text{z} \; \text{q} - \; \text{,} \; . \; \text{F} \; \text{l} \; \text{D} \\ &, \; \text{i} \; - \; \text{M} \; \text{A} \; \text{F} \; \text{i} \; \text{f} \; \text{j} \; \text{q} \; \text{Q} \; . \; \text{K} \; \text{v} \; \text{z} \; \text{q} - \; \text{j} \; \text{s} \; \text{j} \; \text{k} \; \text{j} \; \text{j} \; \text{k} \; \text{j} \; \text{k} \; \text{k} \; \text{k} \; \text{j} \; \text{j} \; \text{j} \; \text{k} \; \text{k} \; \text{j} \; \text{j} \; \text{j} \; \text{j} \; \text{k} \; \text{j} \; \text{k} \; \text{j} \; \text{k} \; \text{j} \; \text{k} \; \text{k} \; \text{j} \; \text{j} \; \text{j} \; \text{j} \; \text{k} \; \text{j} \; \text{j} \; \text{k} \; \text{j} \; \text{k} \; \text{j} \; \text{k} \; \text{j} \; \text{k} \; \text{k} \; \text{j} \; \text{k} \; \text{j} \; \text{j} \; \text{k} \; \text{j} \; \text{k} \; \text{j} \; \text{k} \; \text{k} \; \text{j} \; \text{k} \; \text{j} \; \text{$

v K z8W K...6 z K6_-' Qz - k% 8zq-6-6 K-% 8-%
- Qz 6 z K-% Q6 KK 6 6% 68 6q Kqz 6...-% z8 q6 K-%6-- - ; 6% K6 K-%
; z%z 6---; 6% z q--Kz ..z8K6 K,Q _ ' Qz 6q Kqz -/ -/z K-%6-- - ; 6% K6 K-% 6 z

K z-z-6% 6% Qz/6q 8-z % 8K k% KQ7z zz%q-z; z 6% QKQ qQ-W 7z zz% 7-kq 6% K6 zW28 q6 K-%-- -; 6% K6 K-%_

Y%K z8W K....6 z K6— "z -%z k – _Mall Faa_

Man_ y%, ni i W Qz% Qz Y%Kz K -/ w Kq-% k% KqQz8 / -...6 %-% z q-- Kz 68 K-6; zz..z% WQz Y%Kz K z K.6 z8 K 68 K-7 -68 q6 z z% z - - & K-z_m- v zq-- MIf k z - v zq-G 1

v K z8_ 'QK K % 6%z z - k%k-%6% Qz/6q K % - z8
7 68..K K/-z-z k8z%qz_ 'Qz z QK/K Q6 K Qz - qz -/ QK 6 z k-%K Qz6 6 _

MIL_ y%/6q WQz Y%Kz K 68K-7-68q6 z z% z Q6 K%q z6 z8 / -...X %8z

T, LLWLL 6% 6—K%, ni i %8z 6 %% fz q—Kz K,Q —Kq — TaPWLLWLLL— z 6 z—zF

z6 z K-8 %8z K z q—Kz 6; zz..z% KQuz6 /kz-8-5-..... %Kq6 K-%_m— v zq— M f

k z - v zq—G _i 6% , M

M1, _ y%p q -7z -/ MLnWQK 6; zz..z% 6 6..z%8z8 - k%q—8z k%z %z z6..k% -/
Y%Kz K -/ w Kq-%k%; 6..z _ m- v zq— MnF Mf k z - v zq—G _, a_

v K z8_ 'QK K % 6%z z - k% 6%8 Qz /6q K % - z8

7 68..K K -z-z k8z%qz_ 'Qz z QK K Q6 K Qz - qz -/ QK 6 z K-% K Qz6 6 _

V K Z8W K...6 z K6—' Qz /K Q6—/ Qz 6 z K6% z; 6 8k%

Qz k6q z6 z k6% z z% z K6 — - z8 7 Qz qK6 K6% ' Qz zq—%8 Q6—/ Qz 6 z K6%

z; 6 8k% uz6 /kz8— - Qz 6—z; z8 6; zz...z% K6— - z8 7 68...K k7—z k8z%qz_ ' Qz

z Qk7 K Q6 K Qz — qz —/ QK 6 z K6% Qz 6 6 _ ' Qz /6q Wk66% z z%WK K....6 z k6—' Qz

..6 z k6— z k6% Qz Qz Qz w yVVW6 6 6 z 6q — W.6 z6z k6— Qz z q— Kz q—6 6q

Q6 6 z Qz /-q —/ QK 8K zW6— Qz Qz z8 q6 K66—k6 K K60—k6 K K60...K Q k6q z6 z Qz K

z z6% z 7 qQ q—6 6q _

MI-_ 'Qzzq—Kz-Kqz%z z8 k%q—z;z - 6 zq-... 6 67-z-- Q-z-/ Qz wyVV z-6-z8 - k%z %z 6%... K K-%k% Q6 Qz - k8z ... qQ%zz8z8 / %8 k%j_m- v zq--1 F. M 5 -6-¶ V//_ - F, L_

 $v K z8_{2}$, Qz 6 z K%K% - z87 Qz qK6 K%

 $v \ K \ z8_V ... z8 \ q-... 6\% ... 6 \ ... 6 \ z \ z \ ... z\% \ - \ k \ q \ z \ z \ K$ 67 KK - $z \ y\%z \ \%z \ z - \ k \$ $z \ qQ\%K \ z \ 6\% \ z \ qQ\%-; \ k \ KQ- \ z \ z \ q \ k \ - \ 8z... 6\% \ k \$ $z \ q-KK_v \ z \ V//_W \ ML_$

MIP_ w KQ- z q— K z q–% 6q WQK z z% z z6... – -8-6—7 8K6 z6 _ m- v zq— . L_

Y%K z8W K...6 z K6—' Qz ...6 z K6— z K-%K Qz Qz z q—Kz q–% 6q 6 K z 6 z q–% K K-%6M1_ 'Qzq-% 6q 7z zz% Qz w yVV 6%8 w w w : Q6 z%Q6%qz8 7-Kq 6qqz - w yVV z z% 6%8 Qz— / -/K—%z -/ Qz w yVV 6 z8 -7½q Kz W- -..- z - - %K½ /- ...z..7z qQ— 6 KqK6 K-% m- v zq— .1 f k z - v zq—G _M6 , . _

v K z8 6 k%68..K k7-z_ (-/z - m- Q6 %- 8Kq-z8/6q - - Qz q-%q-K-% Q6 7-kq 6qqz Q6 6q 6--7zz%z%Q6%qz8 7zq6 z -/ Qz q-% 6q _ Mia_ ' Qz w w w : z q-Kz-kqz%z 6; zz..z% - k8z z 6%8z8 z - z/- z- KK7-z- - m- v zq- . PE i f 5-6-¶ v zq- PF _

 $v \ K \ z8_' \ Qz \ w \ w \ w : \ z \ q - Kz - Kqz\%z 6; \ zz..z\% 8-z \ \%$ $z \ Kz \ w \ w \ w : \ - \ -8 \ qz \ 6\% \ z \ z\% \ W8Kzq - - \ Q- \ ; \ Q6\%6//K 6 \ z \ W8 \ QKq \ z \ k\% \ V//_WG \ _v$ $6 \ yy \ Aw \ w \ w : \ 5-\% \ 6q \ k8z\%K \ k\% \ -8 \ q \ K-\% \ ; -6-R 6 \ KK \ zq \ -6-Kz \ -6 \ z \ Q6 \ ...- \ z$ $z \ z\% \ 6 \ z \ -8 \ qz8 \ 7zq6 \ z -/ \ Qz \ 6; \ zz..z\% \ Q6\% \ - \ -8-7z \ -8 \ qz8 \ KQ- \ K_-$

v K z8 6 zq -6-Kz_

Min_ w KQ- Qz zq-%...Kq - zq K-% - K8z8 7 z q—KK WKK %H4z—6 K,Q
Q-8z - 8-1% z 1%66% q-....K - Qz z K...z%6% /6qKKKz %zqz 6 - -8 qz QK
%...7z -/ - %6...z% z z% WK% 6 Kq -6-/- Q- z - Q6 8-% % ...6—q-....6%
K, %KKq6% 7-Kq 6 z%K-% m- v zq— . a F. i _

 $v \ K \ z8_V ...z8 \ cq-... 6\% ... 6 \ R\% z \ R\% \ q \ z6 \ R\% \ K \ z-/$ $y\%z \%z \ z6... R\% \ KQ- \ zz\PR\% \ z \ q-KK \ W \ z \ V//_W \ MLW6\% \ K.... 6 \ z \ K6-7zq6 \ z \ KQ-$ $z \ q-KK \ Qz \ z \ K\%- \ KQ \ Q-8z$

Y%K z8_

v 6 z 8 QK, $MQ 86 -/ dz 7 6 WML, <math>L_{\perp}$

m"−7z h_v z $c - \frac{1}{6}$ 6 6 6 6 6

J p v d" G: D r Vmk W _5 _ p % G6 c 6K%) zz W Kz PLL (-p // Kqz 1 - Ma, n)c 68K-% y P-aL, R(Q-%zt 1 Li RMPaFn,, d6 t 1 Li FMPa FL1 Ln $G...6K + 8z 9; \P-6 q-...$

.1L-L.B,

w y) 5 p k) yk yk ' G') 5 mp u V) ' y5 V' mu G' y5 V)) p 5 yV' yp k Wbc G' y5 Vk myFdyWyk 5 $_W$

(-6k%k/W

56 z k – LnF5 g F, PP

J Vk k G' ' 5 p _Wk 5 _6% w y) 5 p k) yk k Gw) (V(G' V)) p 5 yV' yp k Wk 5 _W

v z/z%6% _

' V1) ' "GVc yk J g yp u V' G' mG dy') ' Vc Gk v c Gk'			
yk ' ''	p v Y5	' yp k	,	
) ' V	Gc Gk	a'pdVvvy'ypkVuWYkvy)(Y'GvdV5')	,	
V" J	Yc Gk	,	P	
<u>y_</u>			a	
	V_	'Qz(- Kz6 56 6qK 56 z v-k-) - G q—KK	i	
		,_ 'Qz - 6K %K/Kq-% z Qz q6 z -6	n	
		M_ 'QzwyVV8-z %- 6q k%6 - kz6 q6 6qK	_,.	
	1_		, 1	
	5_		_ML	
	v _	G q—KK 56% 1 z h KKx8 V V 'K.zW -6qz p c 6% √z "z Kq K-%	MM	
			M	
		M_ 'QzwyVV zq—KzK;Q —KqKz8−%-zzK;%KKq6%;-z%.z%6—K%zz	MP	
		'QzwyVV zq-KzK,Q Kq Kz8-%- z6 z-z%6 z 6-z%6KzqQ6%/z-/-q%Kq6K%	Ma	
уу_		wyVV) vy)5"G'ypk'p5pk'"V5'y) uycy'Gv1: ("yk5y(uG) 5"YVu("p'G5'ypk	M	
yyy_	Gk'y	'mG(uVyk'ydd) GddG5'yg Gu: 5pk5GvG'mV'JVkkG''y) Gk'y'uGv'p'mG5p(:"yJm'F'GuV'GvvG5uV"V'ypkpd"yJm') y')GGr)		
5 n k	5 u Y) и	n k	-1	

```
Cases
                  WPd-8,,... Aa Q5K, nnPR i
       - g
             W-nd) a, n A v d - 6, na M R
            g g Wi, Y__MM, AniaR_____MP
                        WMMd-8, Mhi A, Q
5 K MLL-R
                           WLP d M811-
Aa Q5K, nilR
                                 ____---WP
               Wi, . d_M8 , MM An Q5 K_, nnLR______ MI
         g
                   g 	 g 	 WP-, Y) Mii AMLL, R 	 aWl
      g g
        Waii d_M8 i L AM8 5 K_, ni l R______, i W,n
  g
            T
                   Wli Y) Mi Ani. R M
  g
                         g gWLL (M8 nli
A5 — , nPl R
              g WnLY) a-LAninR ---
           T
              g Wa-Y) ai i Ani PR ML
            ga
    g
                gW-n d_) _, P-i A'_" y_, ni l RW
  i, Pd_M81nMA, 5K_, ni aR_____
W., d_8, L-MA, Q5K_, nni R_____, -W. WMhWLW,
    g g
             g
                   _____, MW- W. WPWMP
, ni . R
            gWlnY_)_PMIA,niPR_____n
  g
       g
```

```
- gWPMY) 1. LAni, R MM
   g
     g W-a V Ms - . a Ak m_MLL-R________, i
           g gWniPd_) _M MAk_v_k : _, nnaR_____, i
  g
   g - gW-iY)_, W, l A, naiRA) z 6 Wh_Wq−%q K%, R_____MM
                     Wana d_M8 PPMA <sup>Q</sup>5 K_
      g g g g
                            , i WLW,
, ni l R
                  WPaa d_) _-Pl A _V K_, ni - R_____, i
   g
W.1 d
                       _____,, W,MW, WMP
             g gWilY)_aPLA,niiR_____M
    g
               W, i Y) Mhi A, na. R a WMV-W. WPW1
   g
            W, i Y_)_M, A, na. R______M
        g g g
          W1, d_) _, Li - At _v_d-6_, na- R______, i
    g
                    Wii Y), an Anii R MM
              g
       - gWLP d - 8 i . , AMS 5 K_, nna R______- P
 g
                   gWn-, d ) ,, M A) v k :
 g
, nnl R
                    g t $$g\ndot \text{M} \text{Pa} ( \_M\text{S}, -a \text{Ap} \_{-6_5} K__
          g g
V , nni R
                      gWalad M8, MMP Aa Q5K
            g
, ni PR
          T - g g g \otimes \mathcal{P}, L d_{\underline{}} _i,
A _5 -%_, ni , R______, LW, W. WWPWM
       g gWVMMd_) _, PLL Ak_v_y__, ni PR_____-P
 g
    Wa. d_81aP A Q5 K_ML. R________, n
 g
```

```
g gWW,L)_w_M8MLAz_V_
      g g g
, n. aR
          Wnl (_M8 i . L A5 6—, na MR______, i
       ggg
     Wn, Y_)_-na Ani nR_____
  g
       W-a)-_M8.nl Ad-_v K_5 _V _
    g g g
MLL-R
     WaP- d_M81, a Aa Q5 K_, ni PR_______, n
        Wna Y_) _aML AnnLR_______, LW, WMM
         Wn, Y) ai, AninR MMWA WM WM
  g
       W, Ld-8, LMh As Q5 K_MLLMR_____M
   g
            g Wn-d-8, aa A85K, nnnR , n
     - ggg
          g gW-- Y_)_Pl MA, naaR_____-M
      T
   g
              Statutes
5- KQ Vq Aa Y_) 5_ , L, W g & _____-. WP
w K_V8..._5-8z '6 ,, L- AMR6RP_____nWP
```

'Qz 6 kz 6; zzW- Qz ... 6 W% Qz q-% K K%- k% K- k% K- z % Qz z - k%-/ Qz K 8 K z 'Qz 6-6; zz W- Qz ... 6 W% QkqQ/6q 6 z ... 6 z k6-6% Q6 Q- z/6q 6 z % K z8 k% Qz 6 X8; ... z% zq-8_' Qz Q6 --8K6; zz W Q- z z W% Qz 6 -kq6 K%-/ Q- z k% K-z - Qz % K z8/6q 6% WQz z/- z W% QkqQ kz 8 zq-6-6 K%-/ kQ Q-8-7z; 6% z8_

'Qz -6K%K/ - - z8 8zq-6-6 K-%K z -KqK-...-8z-z8 - % Qz 6q Kqz -/ -/z K-%6—
- -z6; z _' Qz q-6K.. Qz K,Q - 6Kz z z% z 7 z-K% Qz z q--Kz K,Q - z6...
q- z 6; z -/ QK,Q qQ--6 Qz-Kq - %6..z% z z% - z Qz y%z %z Wz z% Q-; Q Qz w yVV K 6
6 z 6q - 7- %8 - Q-% Qz 5-% K K-%; 6 6%zz -// zz zzqQ6%8 z 6— -zq K-%_ ' Qz
-6K%K/ 7 Kz/qKz 6-K6% -/ q6 z WK% - -/ QzK - -z8 8zq-6-6 K-%_ ' QzK 6; ..z%
6 6% q6 z/ -q-% K8z 6 K-%V/q- zW Qz q- K-/K8 Qz q6 z 6q 6— - Qz
8z/z%6% - KK-% Q6 Qz w yVV q-% 6q KQw w w: K-6-z Qz dK 6% d- zz%Q
V..z%8..z%

'Qz 8z/z%66%6 Kz Qz z qz 6k% %8K z8/6q Q6 Q6 z %- 7zz% z K
8 6 %- Qz 5- 6 z%K%_' 'Qz ...6 z k6-/6q 7- Q 6 kz 7...Kz8 Q-; Q -- z8

/k8k% 6% 7 K -6-k-%6 z %8K z8W.-- z- z W.6¶k% Qz -z; 6-K z 6Kz8 k% QzK

q- F..- K%/-6 X8; ...z% Kz/- QK 5- 8z z ...k%6 k-%_

Interscholastic Athletics Generally, and WIAA Tournament Events Specifically, are Publicly-Funded, Educational Events

(7-Kq qQ—8K Kq K%q z z%z k%Qz/— k% q6z; - kz - - w yVVF zq-; %Kz8 z6... 6% - 6 KqK6z k%%% Q- Wz; -6 z6-%6% - %6..z%q-... z KK-%t q-% q K-%Vz 6K 6% ..6k%z%6%qz-/6Q-Kq/6qKKkz fq-6qQ 6-6-kz f-//KqK6—/zz f w yVV

,

; z%z 6-8 z fz% /zz f z6...z K..z%f 6% - 6 K-%q- 6%8 qQ6 z -%z /- 8z%
6 z K-6 - - %6..z% z z% _ (- - z8 d K-8 K-6 - / d6q K-6) - -/ v z/ _ c - _/-)_
h_-%' QzK 5- %z q-6K..Av¶_I--RA(dp d RW n, _ ' Qz z z z%z 6 z 6 K-7 - ... Qz
qQ—-8K Kq 7 8; z - / -...8-%6 K-% - 7 Kq / %8 6K K-6 z//- _) -z..z%6-(- - z8 d K-8 K-6 - / d6q K-6) - -/ v z/ _ c - _/-)_h_-%' QzK 5- %z q-6K..AK z-8 Qz z KQR
A) _ (dp d RW , _

'QzwyVV z6 K%z qQ—6 Kq6Qz–Kq6 6 -/ Qz -6—z8 q6 K-%6— -qz 6%8
8z q K/z q-... z KK-% 6 z z% /- Qzz%Kz 6z -z... 7 6qz 6%8 K%z Qz 6-K -/
z8 q6 K-%6—z z Kz%qz - K8z8 7 qQ—— z... Q-; Q- Qz 6 z_ (dpdWiif) _
(dpdW._d Qz...- zWKK QzwyVV - KK-% Q6 \$3Qz K%z; K 6%8 - z -/
z8 q6 K-%76 z8 6 Qz–Kq Q- 8-% 7z q-... -.. Kz8 7 - K8z K%—z%qz Q6 qQ— z K.. - z QzK z-/FK%z z --%K%z qQ-6- Kq -; 6..._) _ (dpdW, L_

WIAA's Revenue from Rights Fees and Exclusive Contracts Represents a Small Part of its Annual Income and Budget

y%MLi Ww yVV zqzKz8 K,Q /zz 6%8 – Qz z z%z6 –qK6 z8 KQK z q—Kz
7 –68q6 q–% 6q / -... Qzz – qz t w w w : W K%q k z 6 z Wy%q_A"k y R6%8 d—
) – k z – ¶ w Kq–% K%Ad– R_) __(dp dW , , _ ' Qz MLi z z%z Qz w yVV 6 K7 z
– w w w : 6 –/ – z t 6 TI LWLL K,Q /zz 6%8 –.. z % zqKKx8 – K-%-/ 6%Ti LWLL
6 .. z%/ –... 6 –%– QK 6 %z _) __(dp dW , M_v K% Qz MLaHi 6q68z.. K, z6 WQz
w yVV zq– 8z8 TI WLMM - K% – %6.. z% z z%z 6%8 Ta Waa WPP K% – 6— z 6 K% z z%z_
) __(dp dW , - _ ' Qz 67-z-7z— q-... 6 z Qz z qz%6; z –/ w yVV MLaHi – %6.. z%
z z%z 6%8 – 6—z z%z 6; 6 k% 6—MLi z z%z / -... Qz w yVV z q—Kz 7 –68q6
q-% 6q 6 %z A&q—8 k% Qz z%Kz Ti LWLL –%– QK 6 .. z%R_

	I	I
www: IFTILWLL K,Q /zz	, <u>L</u> E	<u>i</u> E
www: FFT, . LWLL -6— 6 z%	<u>M</u> - E	M <u>L</u> E
V—z q— Kz 7 –68q6 q–% 6q 6 %z q–7k%z8t TM PWLL www: FT, LWLL "kyFTaPWLL d– FFTMLWLL	- <u>i</u> E	- <u>-</u> E

(dp dW, P)

WWWY Produces – Whether Directly or Through an Affiliate – Only a Small Percentage of WIAA-Sponsored Tournament Events.

'Qzzzz6-z6 - WiPwyVVF-%-z8- %6..z% zz% 8 K% QzMLiH.n

6q68z..Kqz6q-zz87 Qzwww:q-%6q_) _(dpdW-L_p/Q-z-WiPzz% W-.
zz-8qz87 www:- K 6/KK6z %8z Qzwww:q-%6q_) _(dpdW-,_

_

The WIAA is Operating Outside the Written Terms of Some of its Exclusive Contracts

'Qz w yVV q-% 6q KQw w w : q-%6k% 6 K,Q F/zz 6 ..z%/- ... & Q6 q6-/Qz w yVV - zqzKz PLE -/ Qz %z z z% zWK 6% W6/ z q- W/z%z 6 z8 7 6 w w w :

- %6..z% -8 q K-%6%8 MLE -/ Qz z z% z/-... Q Kq6-..z8K6 6-z-(dp dW Pa_' Qz
MLLi K,Q /zz -/ TI LWLL 6 %- q6-q-6-z8 7 Qz 67- z/- ... -6_) _(dp dW , l_ y% z68W
Qz K,Q /zz 6 -6--6; zz8 -7 w w w : 6%8 w yVV K- Qz 6 ..z% 6%8 z - z8z z z% 6 qz 6k% z qz%6; z -/ w w w : MLLi 8K K7 K-% z z% z_) _(dp dW , a_

The WIAA Operates Without Guidelines to Constrain the Exercise of its Discretion in Drafting Media Policies or Determining Fees.

WWWY's Exclusive Rights Deter Some Public Access Channels From Producing WIAA-Sponsored Tournament Games the Stations Would Otherwise Produce

 \sqrt{MLPW} w w : -; Q - \sqrt{K} %6/ \sqrt{K} 6 z 6; zz..z% KQ 7- \sqrt{K} 6 qqz qQ6%2—) (dp dW MM Vqq - 8K% - Qz (z K8z% - w w w : WQz 6//KK6 z -; 6... - -8-6-- Qz (GJ) $$7-K_{4} = 6qqz = 3qQ6\%z - q-\%K\%z - 8- Q6 Qz = zz8-K\%WQK_{4}Q = 6/K-K\%wyVV$ z z% 6% q6 K% Qz...-% QzK qQ6%z-) (dp dW M' Qz 1-68-/v Kzq--/Qzw Kq-% k%V -qk6 k-%-/ (GJ 5 Q6%/z-Aw V(5 R %6%k.- - - z8 k%MLP - %-z%-z $w w w : -z 8 \frac{6}{K} z 6; zz..z \frac{6}{-q6-6qqz} qQ6\% z - (dp dW M) Qz 7-6 8$ $z \ Qz \ K3 \ z - qz /- K6 \ z \ ; 6 \ Qz \) \quad (dp \ dW \ MP \ V 7 - Kq 6 qqz \ qQ6 \% z - Q6 8 - z \% -$ K%Qz6; zz..z%K% - z..Kz8 - -8 qz6%; 6..z q-zz87 www: z q-Kz KQq-% 6q) (dp dW Ma ' Qz w V(51-68 zq-; %Kz8 Q6 - - KK-% - <math>Qz 6//KK z6; zz..z% ..z6% Q6 ..6% 7-KgWz8 q6 K-%W6%; - z %.z% 6qqz qQ6%z— K-qQ— z %- $-8 \text{ gz wyVVF } -\% - \text{z8 z; } \frac{\text{K-\%}-6\%}{6} \text{ zg } \frac{\text{K-\%}-\frac{1}{2}}{6..z}$

'Qz 8z/z%6% Q6 z qQ6-z% z8 Qz w yVV %z 6-z6..z%-/..z8K6 q-...6%kz Q $zz\P - z6...QzKq-z6; z-/- \%0..z\%zz\%-zQz\%-zQz\%-z\%z\%z\%z\%z$ $\frac{1}{3}$; 6% - w w w : -/ z q-KK 6% % % & -28 8Kq z K-%- z y%z %z z6.. K% V6% - Qz q-%KK-% Q6 Qz w yVV 6% w w w: Q6 z K.. - z8 -% Q6 z z Kz 6q KK 'Qz 6 qQ6-z% z Qz KQ /zz Qz w VV K.. - z W6 z8 -% Qz q-%z% 6% .. z Q-8 -/ - %.. z% z z% q- z 6; z**\%** Qz z...-/ K- z 6\% K Q6 z 67-K Qz8 7 Q z6 z\% o - z -\\$z -8z% / z q z8z% K6 — X % K Q- z zzqQ Qz w yVV 8zz... K% - K6 z $^{\circ}$

^{· &#}x27; Qz K- z 6k% W % 18-z8 8Kq z K-%6% K,Q /zz K z 6 z 688 z z8 K.6 K–k% Qz 7 kź/k% -% v z/z%86% c - K-%/-)6 h 8; ..z%_ 'QK 7 kz/ z -%8 - Qz 6; ..z% -6k%k/ ...68z k% QzKz q—Kzq-% 6q 6% (-6k%/k/ c - k-%/-)6 h 8; ..z%

'QzwyVV6%8www: -z 6zWQ-zzWQzzz%-/Qz8z/z%86% qQ6-z%,z-QzK - KqKz6%8 6q Kqz_

- * 'Qz 8z/z%6% 8-%-qQ6-z% z Qz w yVV 6q Kqz -/
 z KK% Q6 -z; KK.6 z .. z8K6- -z -7 6K%q z8z%K6--/6qqz z 7- z WK8z-K/z 6%8-Qz --q6 K-% 6
 %6.. z% z% z Q6 6 z %- z%- zq 6- f
- ** 'Qz 8z/z%66% 8-% qQ6-z%; z Qz w yVV z-6-K%QK KQ w w w : Wz qz /- Qz z q—Kz KQ 6%8 %7 k8-z8 8Kq z K%6 zq -/ Q6 z-6-K%QK_y% 6 kq -6-WQz 8z/z%86% Q6 z %-7xq K%- Qz -kqz%k%; -/ Qz w yVV %6..z 6%8—; - w w : WQzK xk%- z 6 k%6%8 -..- k%-/ k66_ 6 6 8z k%6 k% -k% /- kz k%; %6..z% z z% W%- Qz 6//kk6 z -; 6... Q6 w w w : -//z Q-z 7-kq 6qqz q67-z-qQ6%z—Q6 /k8 w w w : q-%8Kk-%/- q-z k%; %6..z% z z% 6qqz 67-z-f

zqQ%—; 6% .. z Q-8 Qz qQ— z_' Qz dK 6% d— zz%QV.. z% .. z% K.. —8-%
6— 6 6 z 6q - - 6 K%6% z—Qz KQ - z - -%; - z %. z%F -%- z8 7-Kq z z% 6
6.. z6% -/ 6KK% z z% z

'QzwyVV8-z %-6q K%6 - Kz6 q6 6qK W6 Q6 z ...K z8 K%dK V...z%...z% X K 8z%qzW Qz%K z; -6-z ...z8K6 q-z 6; z-/QKQ qQ--6 Qz-Kq - %...z%z z% _ c z..._R%) - -/ (-_ c - _/-)_ h_A ¶ _I PLRA(-_ 1 _ R6 , LF, P_ z% 6; z 18% q-....z q16 - z% z g6 , L 1 Qz w yVV K % z% 6; z8 18% q-....z qz 6 Qz - Kz - q6z Kz - kz - wz Kz Y - kz - z6k - z- z 6 K% 6 QKQ qQ - 6 Qz Kq - % ... z% K % 6 q - ... z qK6 z z g W, i Y) Mhi WL- A, na. R "6 Qz WQz 6 Qz-Kq - %.. z% Qz w yVV - ; 6%Kz 6% - z 6 z 6 z 6% k%z; 6-6 - 7 + 4 z 8 q 6 k % k% k k q - % k% - g gg gg WP-, Y__Mi WMn AMLL, RAy%z qQ-6 Kq 6Qz-Kq -7 K - - 6 6%K%z; 6-6 K% Qz 7-Kq z8 q6 K-%-/ 'z%%z zzW Qz z %z6 - z z 7-**K**q z8K-K6-6K% Q6 wyVVF -%- z8 q-... z KK-% 6 z z z% /- Qz z%Kz 6 z -z... 7 6qz 6% K% Qz 6-K z8 q6 K-% -z z Kz% qz - K8z8 7 qQ --- z... Q-; Q- Qz 6z Rf (dpdWii AvyVV q-% K K-%Rf) _(dpdWl AQK,Q qQ-6 Qz Kq 6z6%**1**% z; 6—6 −/ 8z% | Kz 6% q — zR

w Qz%6 6 z 6q − 8−z 6q k%6 − kz 6 q6 6qK W.- z− z WK K % / zz − z%z

k%−6% ...6k%6k%z q—Kz q−% 6q 6 − -8-6% K6 z 6q − q−% q k% Qz 6.. z 7 k%z W

6 Qz -6k%k/ ..K 6¶z%−q−%z%s_(−_1 _6 , L_" Kz Qz q−% 6 W\$3Qz/6q Q6 Qz

; - z %. z% 6q 6 6 - Kz - 8-z %- %z; 6 z Qz %zz8 - z% 6; z R% Qz 7-Kq/-R% K
-8z z ...R%z Qz - z -z -z -/ dK V...z%s...z% q K% - z K zzqQ z Kq K-%_
- g WP d - 8 , , ... W, Pi Az Q5 K_, nnPR_G z% Qz%6q R% R%
6 - Kz 6 q6 6qK W6 6 z 6q - q6%q z6 z 6 8z K; %6 z8 7-Kq/- Qz z zzqQ
z Kq K-% 6 z 7xzq - Kq q R%_ - g g
gwal a d_Ms , MMPW, MMF - Az Q5 K_, ni PRf g g
gw
k - _ LnF5 F. - i a WWL, LY) _v K _u Gb y) , , Pl W6 G-L Az _v _y - h6%_a WWL, LR_ ' Qz q- Q- -8/K28 Q6 Qz w yVV Q6 8-%z X Q6 7 - z%R% K - %6...z% z z% /- q- z 6; z 7
... z...7z -/ -z; KK. 6 z ... z8 K6 - -z _) _ (dp dW -- _

^{&#}x27;Qz - ; 6%K6 K-%-/ QKQ qQ - 6 Qz-Kq - %6.. z% K %- 6 q-....z qK6--z% z %8z w Kq-% k% - 6 y/ K z zWQz w yVV - 8 - 26 z - 6 6 - 26 -% K kq z z z z% zWHq z 6%

'Qz - Kz 6 q6 6qK q6 z Qz -6K%K/ z— -%W q-% 6 WK%—z zKQz q-....z qK6-z%z Kz - z 6 z8 7 ;- z %. z%z%KKz - QzK qQ6 z-/ z Kqz /-... q-....z qK6-z%8- _' Qz 6 z z6 K-8K K% KQz8_y%8zz8W QKz-Qz-K%z 7z zz% - Kz 6 6%s; - z %. z%6+ %q K-% K % 6-6 8K K%q W g g

gW1nY__PMIWP. - Ani PRA% R% Qz 5 - R%67KK -; Kz R%qK-z8 q-%z% - Qz

8K R%q K-%7z zz%; - z %. z%6-6%8 - Kz 6 6 Qz z6 -%- 8Kq6 8R% K6/z . L

z6 6 Qz 6%86 8 /- R%z; - z %. z%6-6 K.... %K RW% q- Q6 z z Qz-8-Qz - z 6 K-%

-/ QKQ qQ-6 Qz-Kq - %6.. z% W-6% - Qz qQ-F-6%q K-%z8 z 6q Kq -6-6q KK WK 6

- Kz 6 6 Qz Q6%6; - z %. z%6-+ %q K-%

'Qz -6K%K/ Qz6 K— z—-% g gW-nd_) _ , P-i WP. . Az __' y_, ni l RW i, P d_M8 l nMA, 5 K_, ni aRWqKK% 6% – K% K/– Qz – – KK-% Q6 6 6 z 6q – z z qKK% – Kz6 – z Q6 z Qz 6.. z / zz8–... 6 W6% K

 $^{\prime}$ Qz (- 18 z%qz 5 K Kq 5 z%z V Q- K 8 18 %- Qz 76%-%q6... z 6 6 K z 18%

'Qz -6K%K/ z z6 QK z - K%QzK 8z q K K-%-/Qz/6q 6%8Q-8K% K%

T - g g g gWP, Ld_) _i, A _5-%_, ni, R_
'Qz ...K 6¶z%—8z q KZ Qz q6 z 6 Q—8k%; Q6 Qz 5 K -/ m6 /- 8 6q z8 k%K - kz 6
q6 6qK W%- K ;- z %. z%6-q6 6qK W Qz%K6 6 8z8 V15 Qz q—Kz K,Q - - k\$z Qz
z-z-KK-%7 -68q6 -/ Qz w - -8-dK, z) ¶6 k% 5 Q6... K-%QK _ (— 1 _6 ,, _ ' QK K
k%- zq _ y 6 Wk%6q WQz -...- z -/ Qz z z%WQz y%z %6 K-%-) ¶6 k% Y%K-%W%- Qz qK W
Q6 z%z z8 k%- Qz z q—Kz z-z-KK-% K,Q q-% 6q _ P, Ld_) _6 i-_ ' Qz 5 K -/

^M, Qz 8K Kq q- ; z%z 6-K-6 K-%K %- 6 q- zq 6 z...z%-/ Qz-6- , Qz J- z %.z%Vz z% Qz%6q k% k%K - kz 6 q6 6qK W8-z %- z%X- 67 — z / zz8-.../ -...dK V..z%8...z% q-% 6k% W6 8-z 6 K6 z

7 k%z ____ g Wna Y _ aMLWaMP AnnLR_

 $m6 /- 8W_{x} \ Qz (- K_{z} \ gz \ 5 \ K_{x} \ 5 \ z\%z \ V \ Q- K \ K_{x}$ WK.. —6; zz8 – Ω z z = Kq K - Qz = -... - z = z = Kz + 6 = 6 = 6 = 8K - K - Z - Qz = 8K - Z - Qz = 8KK6z ¶6 № q-... z KK-% 6 i. Fil k zKQz %- T $\frac{1\%}{286}$ 6 z 6q - Q6 K.. - z8 zzqQ z Kq K-%W QK-z-6q K% 6 6 -.. - z W6 Qz w yVV 8-z Qz z $^{\prime}$ Qz q6 z $\frac{-2\%}{8}$ % - QzK - KK-%Wz $\frac{-6\%}{8}$ K/ z - -% Qz... Q - ; Q - QzK 7 Kz/ $^{-}$ 6% zq-; %Kz Q6 6 6 z 6q - -z-6 6 8K- K...- %z8-z %- 6 6% z z%8K6 q-% K K60-z Kz..z% - Q6 6 z - Qz Kz K6 z z z% ' Qz -...-z K%7-Qq6 z z z K6 z 7 K%z z Q6 z% \times 67 — z / zz8-.../ -...dK V..z%..z%q-%6K% ____ Wna Y) 6 aMP \sqrt{Qz} (- K8z%qz 5 KKq 5 z%z q- -8-% 6; zz - z% - qz 6% Fq6... z 6 <math>-z Qz% z/-...z K%K z8Vq-%qz -...-z -x zK6zzW-nd) 6, P.-F. y' Qz y''/z % K-% - ¶6 K% Y'/K-% q - 8% z - Qz z q - Kz KQ - z - Kz K qQ6... K- QK z z - ... Qz m6 / - 85 KKq₩P, Ld $5 \, \text{z}\%\text{z} \, 5 - \text{Kz} \, ... \text{WK} \, - \frac{\$ - \text{z}}{6} \, \text{z} \, 6 \, \text{K} \, 6 \, \text{z} \, / \text{6qKK} \, / - ... \, \text{QKqQKq} - \frac{\$}{6}$ 6 i. Fi P k zKQz q- z% - z8 Qz w yVV - KK-% Q6 Qz dK V.. z% .. z% 6— 6 6z6q - z - z - Kz KQ - z - -%z - Q W - z %.z%F - z z z % Q6 $6 z 6; z8 - \% 7 - K_{4} - z 6\% - z\%z8; z\%z 6 - - 7 - K_{4} 68... K K-\%$ $^{'}$ Qz $^{-6}$ K%K/ 6— ..K $^{-6}$ qz QzK z $^{-6}$ Qz $^{'}$ ggW.ld) -LLA VK, nilR (-1 6, , F, M'Qz -6K%K/ q- zq-%-z Q6 Qz 8K Kq q- zq-; %Kz8 6% 6//K..z8 V K-%6 q-....z qK6- \mathbb{R}^{2} z 6% - \mathbb{R}^{2} 6 q6 6qK \mathbb{R}^{2} z \mathbb{R}^{2} 6 dK \mathbb{R}^{2} 2% c - \mathbb{R}^{2} 6 z q-% 6q -z-z Kz K zz¶ z 8 6 K% z ° z WQ6 Qz

^{6%8 6} z qKz8 -/ z z%-Q-; Q- Qz -6K%K/ 7 kz/WQ6 Qz z 6 K.. 6 Qz Q6% 6; z 8z K,%6 K-% /- 7- Q k% QzK 67-z-/ 6 Q- Kkz_

qQ6-z%; z8 q-% 6q 6 %- z q--Kz IF Qz 6..z z ... z z 6 6K67-z - 6% z-z KK-% 7 -68q6 z _

' Qz q-% k8 z 6 k-% QkqQ Qz 5 - K k-%-//z 7 -68q6 z K %-6%z q-Kz q-% 6q 7 Q6 6% -%z KQk% -7 -68q6 Qz 8 6 k% . . . - k8 z Qz 5 - K k-% KQz 6--z kqz 6%8 7 z %z/K _ y%z//zq V6% -%z Q- q- K - - k8 k% - Qz 5 - K k-% 6 zz \quad -7 -68q6 6 6 8 z /k kz K z V6 z -6 68 z Kk% z kqz W k-7 z k% - - z 6 q- z qk6--- Kk-% Q6% Qz K 7 -68q6 q- . . . z k- _

1.1 d_) _6 -, L_ 5-% 6 - Qz -6k%k/ 6; ..z% Qz zW T 8-z %-688 z
- Qz z-/z q--Kz k,Q q-% 6q 7 6 6 z 6q - -; z%z 6 z z z% z/-.....z8k6

q- z 6; z-/; - z %.z%F -%- z8 z z% _

k - 8 - Qz 7 - Kq 6% - 6 K-%q6 z Qz - 6 K-%K/ qKz - QzK z -/ z q -- Kz
- Kqz%z 6; zz.. z% - 6 Kz z z% z (-- 1 _6 , LF, Pf qKK%; W, i Y)_6 - L
A688 z K% 68 z KK%; -% 7 - Kq 6% K z.. Rf g g g

*g g*Wai. Pd_M&rala Waa. AM&r5 K_, ni. RA√az 6q¶ 6 6k% 6 K-% Rf

а

g WMMd_8, Mhi W-Ln A, Q5 K_MLL-RA%z 6q¶ 6

6K - R_'Qz q- 8K8 zq-; %Kz K%z6qQq6 zW6 Qz -6K%K/ % zWQ6 Qz; - z %. z% Q6

; z6 z / zz8-... - z Kq zzqQ-% 7-Kq - z Qz%6q K% K%K - Kz 6 q6 6qK _ 1

%-%z-/ Qz q6 z K% — z8 Qz; 6% -/ 6%z q— Kz / 6%qQKz - z z z Kz 6q KK -% 7-Kq

- z W.. qQ-z - z zzqQ6 6% 67- 6 %z - Q W- z %. z%F -%- z8 7-Kq z z%W

6 Qz w yVV Q6; 6%z8 - w w w: _

 $Qz-8-6 -z-Qz \ qK \ Q68 \ z\%-qz8-\%6-68 \ z \ Kz \ /- \ MI \ z6 \ W \ QKqQ$ $-QK7Kz8 \ 6\% -KKq6- 7-Kq \ K \ z \ 68 \ z \ KK% \ -\% \) \ Q6\Pz \ mzK_Q \ 7 \ z \ _ \ , \ i \ Y \ _ 6 \ -LLF$

^{&#}x27; Qz -6R6K/R6 T % qqz / —q-6K. z8 6 dK V.. z%.. z% K,Q - 7 -68q6 -%—Q- z — z 8 6 R% K qQ- zW z .. 67— Qz% Qz 6¶z z z QK,Qz W QKqQ Qz q— -z8 - -8 %8z .. R6z Qz 6 z R6z z R6-7 6R4K6 6; 6 6%zz8 zz¶— Q- R6 -/ Qz 8 6 R6 6 6 zqKKq K. z 6% -6qz ____ 1.1 d_) __6 -, M_' Qz w yVV z q— Kz q—% 6q KQw w w : 8-z %- ; 6 6%zz 6% q- z 6; z -/ - %6.. z% z z% _ (dp dW Pl_

L, _'QzqK 888 %- 6Kz z z% z 7 ; 6% k% 6% -% z q—Kz kQ - z QK ... z Q-8 - z -/ q-..... % kq6 k% WQ- z z W6 Qz w yVV Q6 8-% z KQ w w w : _ Qz-8

% z 6q¶/zz k% 6k% 6 k% 6 z 6-% 67-z-K. z W-6qz 6% ... 6% z z kq k% 7zq6 z W% kqz

Qz w yVV ... z 8 k6 — kq kz 6% /z z WQz z z z 6—6 — kz 8_a. P d_M 6 aa-A' Qz z K %
z k% Q6 /z z 6 z q-% z % P% z 6 f-Qz 6 z K... - z 8 — % 6% % z 6 z 8 z K k% - k% 6—

% z 6q¶ k% Qz 7-kq 6 z 6 -/ c ' V 6 k-% _ R_ u kqz K z W k% a W

Qz q- 688 z z 8 z; -6-k-% Qz q K 6 — kz 8 z 6— -6— 7-k-Qz /- Qz K k-z; z -/

z -k% Qz K 6 z Q-; Q Qz V K - % z 6q¶ _ - M kd - 8 6 , - La_ u kqz Qz - Qz

-6k% k/ q kz WQz z q 6 z z z % z 8 % - z k-/ z q— K K - /6 - z 8 z 6 ... z % /- z -z q

... z 8 k6 q-... 6% kz k% q- z k%; ; - z % . z % F -% - z 8 z z % _

'Qzq-....zqK6—Q--; 6 Qz K% 6 % ; 6%z8 Qzzq—Kz KQ - z - -% Qzzz%_'Qz Q--; 6 Qz 6 z6k%z8 - 6¶z Kq z -/ Qz; 68 6 z zqzK k% QzK 8K—...6 /- -6-z 6-z - Qz...6% QzK/6.. KKz W6 z Kqz Qz 1 -6 8 -/ "z; z% 6%z8 - z% z 6 6 6 K67-z - Qz.... g6 , L-1_'QK 6 z—q-.... z qK6-6q KK Wk% 6 ¶ q-% 6

- Qz w yVV ..z8K6 — KqKz QKqQ68..K 6%8 z%q- 6; z X %6-K ; z%z 6-- z - -%
%z - Q W- %6..z% z z% QKz-8z% K% Qz...z 6--K,Q - 8- -_k z KQz W
%- 6% - Qz q6 z Qz -6K%K/ qKzWQ-8- Q6 6 6 z 6q - q6%-6- / -- z--z q---Kz K,Q z - -%%z - Q W,- z %.z%F -%- z8 z z% Q6 6 z - z%z8; z%z 6--- Qz 7-Kq P

'Qz — Kz 6 q6 6qK q6 z Qz — 6K%K/ KzqK 6— z— — 7%K/z / %86..z%6—

/ -... QK q6 z 7zq6 z z6qQ k% — z8 Qz; — z %. z% z% z% 6; k% k%q—.... z qz_'Qz) z... z

5— dK V.. z%8.. z% 6%6— K k% 8z z %8z8 — %K 8z z .. k% k% Q6 7-kq 6% K

K 6 q—.... z qK6—z% z_ ., i Y_)_6 - L-_'Qz q— k% z... Q6 Kz8 Q6

\$73z/- z 6 z 6q KKK-%WQz c 'V - k%z z z K 6 z— z 6 z8 q—.... z qK6—z% z_'Qz K

6q KKK-%7 Qz 6 z 8-z % qQ6% z Qz K z z% k6—q—.... z qK6—46 z_ a. Pd_Mz 6 aa P_

'Qz ... %KqK 6—6 8K— K... 6 K z k% W-n d_) _6 , P. L%- WP. - V6%8

WP, Ld_) _6 i PW6—6 z q-....z qK6—z% z Q6 q-...z z KQ K6 z z% z -Q- z z% /- _-/K_ V%8 Qz -z -z-/6 6 z - z W/ q- zWK - _-8 qz Qz ...6 K.....6..- %-/ %z z z% z/- Qz 6 z __ T W.1 d_) __6 -L- A 6 -qK6 K-%-..K z8R_ 'Qz zzqQ z Kq K-% Qz q- Qz-8-k%z6qQ-/ Qz z q6 z 6; 6k% dK V..z%8..z% qQ6-z% z z z k%qk8z% -; - z %.z%6-q-....z qK6-6q KKKz _

'QK q6 zW q-% 6 WW —z zzqQ z Kq K-% 6 QK Q qQ—6 Qz-Kq - %6..z% W
QKqQ6 z z8 q6 K-%6-W- q-....z qK6-W6q KKKz _ 'Qz w yVV 6q¶%- -z8; z 6% -...- z QK
%8K z8/6q K%K - % 6 z..z%-/ - zt

, .

P' Qz 6 z q— q6 z -6k%k/ qKz 688 % Qk% - QzK 6; ...z% 7zq6 z %%z-/ Qz...688 z z8 Qz Qz - % Qz dK V..z% ...z% z ... K 6 6 z 6q - - 6Kz z z% z 7 ; 6%k% z q— Kz q- z 6; z K,Q -/6 - z8 ...z8 k6 q-... 6%kz _ (— 1 _6 , . F, P_ ' Qz 8zqK k-%k% g g g g t \$\$\$\$\text{\$\sigma\$}\text{\$\s

$V K_{\parallel} z yy F(-z)$

-) zq K-%y FF' Qz z / QK V qK K-%K Q zz / 8t
 - V_'--; 6%KzWsz z— WsKzq Ws% q-% —6%K%z qQ-6 Kq 6 Qz-Kq -; 6... QKqQ K—-..-z Qz ksz6—/ K ..z..7z QK 6%s- - %KKz /- ..z..7z qQ— 6 KqK6 K-%
 - 1_'-z... Q6 Kz K%z qQ-6- Kq 6 Qz-Kq 6 6 6 %z KQ
 -Qz qQ-6q KKKz K% Qz -6-z8 q6 K-%6--qz W6%
 /-...-6-z 6% ... 6K%6K% --KqKz QKqQ K-q --K 6 z QKQ
 K\$z6---/; --8 qKKz%QK 6%8 ... 6%QK_
-) _(dp dW P_ mK, Q qQ --- 6 z % 6 -/ 6 q-.... z qK6-z% zW%K4z Qz 68 z KK% 6qz -% 7-K4 6%K zQK4-z 6 K z k% Qz 6k% 6 k-% k%

_ "6 Qz WAQz 6--- Qz qQ---6q KKKz WK%z qQ--6- Kq 6 Qz-Kq - %6..z% 6 z 6 -/
Qz -6--z8 q6 K-%6--- qz Q6 - 6 z - K8z /- K qQK8-z%__

w Kq-% k% 6-z 6 -6 q-%K... QK / %86..z%6-8K k%q K-%7z zz% K6z6Qz-kq z z% W68..K K-% - QkqQ6z 7½q - 6-z 6 %8z w K_) 6_ aa_PMAMR6RM_W6% qQ-6 Qz-kq z z% W68..K K-% - QkqQ6z% 6 67-z w K_V8..._5-8z '6 , , _L-AMR6RP_W QkqQz z... / -... 6z 6-z 6 t

V8..K K% - qQ—6q KKK qQ6 6 Qz-Kq z z% V6 6% qK %qz/6K Vq-%qz V86%qz WK... - - Qz z QK7K Wzq z 6% qQ—6 WK Qz z z% K -%- z8 7 Qz qQ—VQz qQ—6 q-% — z qQ6 z 6% z z% K z 6% Qz %z -qzz8 6 z z8 /- z8 q6 K%-Wz-K; K - qQ6 K67-z - z _

Qz w yVV z z z% 6; z8 k%q-....z qz k%-; 6%K k% 6%8 z z%k% Qz z - %6..z% W
q-% 6 W 6 z - 6 - 8- z Kz K - 6 6- 6- 6 - 6 Q6 z z% z _ W, i Y _ 6 - L-_
y K %- z - Q Q6 Qz - 6k%k/ %- Qz z q-%z% Q6 k%z qQ- 6- kq 6 Qz-kq
- %6..z% 6 z 6 - / 6 q-....z qk6--z% zW6 z Kz8 - q-6k.. - kz 6 q6 6qK 6
%z Qz dK V..z%..z%_ _ ' Qz q6%%-_ m6 k% z 68z8 6 6 z Q6
\$\$\$\$%z qQ- 6- kq 6 Qz-kq _ 6- 6%k%z; 6- 6- k6_ 7- 7- kq z8 q6 k-%W gW
P-, Y _ 6 MinWQkQ qQ---6 Qz-kq 6 - qk6 k-% 6%8 QzK..z...7z q6%%- %- q-6k.. Q6 Qz
6 z - %6..z% Qz - ; 6%kz 6%8 -%- 6 z 6q 6---q-....z qk6---z% z _ V%8 7zq6 z K
- %6..z% 6 z q-....z qk6---z% z WQz w yVV 8-z %- 6q k%6 - kz 6 q6 6qK %8z
Qz dK V..z%..z% q6 z -6- K k%--¶z

'Qz 6 Kz 6; zz -% Qz dK V..z%8..z% 7-Kq/- ...6%6—K - 7z 6 -Kz 8 K% QK

q6 z Wz qz /- Qz %-..z%q-6- z 6%8 Qz - q-..z_' Qz 8z/z%86% 8Kq Qzz z -/

/- ... 68KK-%6-W8z K, %6 z8 6%8 %-%F 7-Kq/- ..._ v z/_ 1 _6 M FM__' Qz -6K%K/

688 6/- Qq6 z; - Wq6-z8 6 -K. Kz 8 7-Kq/- ...WK% QKqQ Qz; - z %.z% q z6 z 7

z z z Qz/- .../- zzqQ7 qz 6k%; - - /- Qz 8Kq K-%-/ qz 6k%- Kq__ (-_

1 _6 , a AqK6 K-%-..K z8R_1 ' QK q6 z z z% Q6 Qz -6K%K/ q6-6-K. Kz 8 7-Kq/- ...W

QKqQ Qz 8z/z%86% K%q-8z K% Qz 8z K, %6 z8 7-Kq/- ...q6 z; - Wzq6 z Qz w yVV Q6

- z%z8 - %6..z% z%z - X %6-K; z%z 6--/- q- z 6; z-/ Qz z z%

'Qz w yVV 8z%kz q z6 k% 6 7-kq/- .../- X %6-K - z - -%- %6..z% z z% W

7 K z6 -%k% K/6 — (— 1 _6 , i FM_ dK WQz -6k%k/ q-%z% Q6 \$ 3 - k%
6q K Kkz 6 z q-% q F- kz%z8 6q K K 6% %- z%K-z8 - Qz 6..z dK V..z%..z%
- zq K-% QkqQ- Qz ...- z q-..... %kq6 K z /- ... -/ z%z 6k%.z% Q6 z 7zz%6/- 8z8W qQ
6 X6 q-%qz 6% % 8z 86%qk% _ g6 , i F, nW - k% - g g g

w z 8z z .. K/z Q6 67- K/6 ...6 qQ8-z % q-% K z zKQz z - ...7-Kq zzqQ6% 8zq-K/z - z z% dK V.. z%.. z% - zq K-% - Qz -...- z -/67- K/6 ...6 qQ

g = 5 - % 6 - Qz - 6 % % / 6; ... z% W Qz = q6 z = 8 - z % - Q - 8 - Q6 z - % 6 - % 6

 $7- \text{ N/s} \dots 6 \text{ qQW} -\%6\% - \text{Qz} \quad 6 \text{ Q} -\text{Z-Kq} \text{ z} -\text{Xs} - \text{Ws} \text{ z} - \text{Zs} -$

'Qz -6K%K/ q6%%- z K --q-%z% Q6 Qz dK V..z%..z% 8-z %- - zq
z - K% -%6 Qz-Kq z z% Wz; 6 8-z -/ Qz ...z Q-8 -/ q-..... % q6 K-%_' Qz q- K%
z z% z /- Q Qz - z z W QKqQ Qz -6K%K/ K...-K,% zt

'Qz z..zq- K% g Wn, Y__-naWL. W ___Ani nRW 6 z8 Q6 \$K\$\%8zqK\$K\\$, Qz Qz 6 Kq \(-6\) q-\% q _- z z //KqK\\$\%q-..... %Kq6 Kz z-z..z\% -7 K\\$, Qz dK V..z\%..z\% K\%- \(-6\) W6 q- Q6 -6 ¶ Qz Qz \$63\%6 z... - q-\%z 6 6 Kq \(-6\)Kz8..z 6; z 6 z z\%\\$\%\%\% Qz Qz 3 Qz \\
-\\$\\$\z \(-2\) Z Q- Kz z8 K_

g6 PLL_"z - z 6% 6%% %qz - & 7z/Kz8 K QzK q- z 6; z -/ 6 Qz-Kq z z% -6q¶z8
//KqKz% q-..... %kq6 Kz z-z.. z% ____ - q-%z 6 6 Kq -6-Kz8 ...z 6; z ___\$Q6 3 - & 7z
%8z -8 7 Q- z Q-\$z68WQz6 8 - 3 Kz z8 K_ g' Qz 6; ...z% K K— Qz z6¶z

Q-z KQ 6 z 6 K z K% QK q6 z 6 z X % K W% 6 Qz-z - -..-z _'Q6 7- K% W -z ¶6 K% W z - 6 K% /-- 76-6 z % 6q K K z z% K-z8 - d K V.. z% .. z% -zq K% K K.. -- K z-z-6% Qz z a

k z WQz -6k%k/ qKz 6 z kz -/ q6 z /- Qz -- KK-% Q6 k% Qz q-%z -/

- k% z z% W_6 - k% 6 z%6- 68K...K K...—% 6 7-kq/- ..._ (— 1 _6 , n_

V; 6k%WQz q6 z 6 z K z-z-6% 7zq6 z Qz 8z/z%86% 8- % q-%z%8 Q6 w yVV - %6..z%

z% z 6 z 68KK-%6— 7-kq/- ..._ ' Q6 Qz k z hz z c z68- -6%8 - Qz c z -8-..z k%

c k%z6 - k 6 z % -6qz -/ 7-kq 6 z...7—k%z%8z8/- Qz q-..... %kq6 k-%-/ k\$z6 - /
Qz z qQ6% z -/ 8k/z z% -k% -/ kz Q6 % 7z6 k% -% QK q6 z_ gW - k%

g g g g Wana d_M8 PPMWPPP A Q 5 K_, ni 1 R_ ' Qz 8z/z%66% 8-% q-%z%8 Qz w yVV z 67-KQz86/- .../- 7-Kq 6 z...7-- Qz z qQ6% z -/ 18z6 18%; z%z 6-' Qz zz¶ z 6-6qqz - Qz 8z K,% z8/- ... Qz w yVV --% 6; - z 67-KQz8 /- z - 18% --%K - %6.. z% z z% V6% - z z%8 Q6 K,Q - Qz z-6-K z--%z z - 18% ... z Q-8-/ y%z %z z6.. 18% _ ' Qz -6-18% K/ q6 z 8-% 688 z Q6 K z_- y%688KK-% - Qz c z68- -6-%8 6%8 c z -8-.. z q6 z WQz -6-18% K/ z---% ----%

g Wi-a V_M8 - . a Ak _m_MLL-RWK% QKqQ%-q-% K K-%6-K z z z 8zqK8z8 7zq6 z Qz q- /- %8 %- 6 z 6q K-%W6%8 g g gWhi P d_) _MI MWM I

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z - z / -... qQ--; - %8 ___\$7zq6 z3 Qz z - z Q6 . . 68z z z6 z8 6 z... - K2KK6 z
% 6%z8 z -%6-q-%6q KQ/z...6-z qQ--z... - zz _ (-__1 _W_ML_k zKQz q6 z

g

 $6 - \mathbf{kz} + \mathbf{Qz} + \mathbf{k} - \mathbf{8} - \mathbf{z}$

Waiid Maril W. AMAS 5K, nil RW QKqQQz-8-Q6 6

/- F -/K q-%qz -..- z q- -8-6-/ ---7z 8z%kz8 6qqz -6... %kqK6--68K... Q6 Qz qK
Q68 q-%K z%--8z K, %6 z8 ___/- z -%-7 qK kq\vqQ6 K67-z-6% %-%F -/K z6¶z _ g
Y%kqz Qz 8z/z%66% R% QK q6 zW Q-6 z 8z%kz8 6qqz -- %6.. z% z% z -%z 6--z ...
KQw w w : WQz q-%qz -..- z R% 6 %- KQR% Qz q-6--/ z6¶z /- QKqQ Qz
/- ... 6 8z K, %6 z8_

'Qz 8z/z%66% 8-% 8z% Q6 Qz/6qKKK 6% z%z Q6 w yVV -z6 z /- K

- %6..z% 6 z 8z K, %z8 6% z8/- - K% z z%_ (—_ 1 _W_ML_1 Qz z%z 6— 6 z

z8V6% -..z K.z 8z K, %z8VK% 6 W-z%67-z-X %6-K - z - Qz z z% -6 K8z

6 8K2%qz_y%8zz8VK Qz z%z z z % K%z%8z8/- Q6 zWQz w yVV - 8-% %zz8 ..z8K6

— KqKz_' Q6 K Qz 8z K, %6 z8 7-Kq/- ...6 K zW QKqQ Qz -6K%K/ K.. —/6K—

6q¶% -z8; z - 688 z

y%8zz8WQz -6K%K/ 6 -K86%qz -/ Qz K z z z%z8 6 K.z zz... 8z-K7z 6 zⁱ ' Qz ¶% Q6 Qz 8z/z%86% 8- % q-%z%8 Q6 7 6— K% Qz 7-Kq 6%8 .. z8K6 z% - Qz ; 6.. zWQz w yVV Q6 ___ - z%\$z83 - K% z z% /- 6 K8z 6 kz -/ z z Kz q-%8 q _ g 6 MM_ ' Qz 8z/z%86% zz¶ 6qqz -%z 6—z ... - q- z - %6.. z% z z% 7 y%z %z z6.. K% W%- - 8-6% QK% Q6 - -8-7z K%q-... 6 K7-z KQ Qz - z -/ Qz z z% Qz ; 6.. z _ g6 M_ Vqq- 8 k% — WQz -6 k%K/ z-K6%qz -% a g g gW, , d_M8 P-. AM8 5 K_MILMR6— K .. K -6qz8_ g ' Qz q- /- %8 K %%zqz 6 K% Q6 q6 z - 8zqk8z Qz K z z z%z8 Qz z FF Qz Qz 6-K. Kz8 - 8z K %6 z8 7-Kq/- ... Q6 7zz%q z6 z8 FF7zq6 z Qz -6 k%K/ Y%K-%

'Qz -6H%K/ -X K QzKz q—Kz K,Q q-% 6q -%Qz; - %8 Q6 Wz z%K Qz w yVV Q6 q z6 z8 6 z -/ -K. Kz8 7-Kq/- ... WQz w yVV — KqKz z... 6H%q-% K K-%6—7zq6 z Qz w yVV q6%-K. K zzqQ KQK% Q6 /- ... - 6 Kq -6 z -/ z z K-%_ (— 1 _6 M__' QK K 6 q- zq 6 z... z% -/ Qz -6 -%—KW z -/ z z K-%W Qz -6H%K/ ... z6% Q6 6 8z K,%6 z8 7-Kq/- ... q6%7z -K. Kz8 - Qz 8Kq K-%-/ qz 6H% 7½q _ g ga g Wa-Y__ai i WLMA, ni PR_1 Q6 K %- Q6 Qz w yVV Q6 8-%z

'QzwyVV 8-z % -QKK Qz z-/z z K-%K% QKqQ Qz 8z/z%6% zz¶ z% 6; z 6 - %6..z% z%z_" Kz Qz q-% 6 WQz w yVV z z - z ...K y%z %z
z 6..K% -/ - %6..z% z z%_' Qz q-% K K-%6---7-z...KQ6 q z 6 z 8 /- K z-/WQ- z z WK
Q6 KQ6; 6%z 8 - w w w: Qz z q--Kz K,Q - z Q6 z - k%; ...z Q-8 6%8 Qz % 18-z 8
8Kq z K-%-6 Q-Kz-Qz -8- Qz 6...z-% Q6 z z z ... w w w: ...6 qQ--z_' Qz
w yVV --Kq -/ 8Kq K.K6-- ...z 8K6 6qqz 6%8 q--z 6; z K,Q K-6-z Qz dK
V...z%8..z%

'QzwyVVQ6 q z6 z8 6 q-6- Kq 8z K, % z8 7- Kq/- ...7 - K8 K%; z%z 6-6qqz - 6

q-6- -/ z6 ¶z W-z; KK. 6 z %z ; 6 Qz K%; .. z8 K6 z z z z%6 Kz W/- Qz - z -/

q- z K%; 6% z - K%; /-...wyVVF -%- z8 - %6.. z% _ (dp dW i af v z/_ 1 _6 MF

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-z6 z Kq Kz .. z6% z Kz .. z% -/ Kq q K% Q6 6 — k%6 68KK-%6— 8z K, %6 z8

7-Kq /- ... n gA z/ _ 1 _R y%/6q WQz w yVV q6%%- z z% 6 K/ Qz — z dK

V.. z%8.. z% 6%86 8 /- %%F 7-Kq /- ... 7zq6 zW Kz -7 K- —; Kz% Qz w w w :

q-% 6q Wy%z %z z6.. k% K z /zq —q-... 6 K/-z KQ Qz k%z%z8 - z -/ w yVV

- %6.. z% z% z _ - g6 MIF M_

'Qz -6k%k/ k% z68 q-%z% Q6 Qz 5-% K K-%6— Qz w yVV --K.K%z 6 z

- z /- ...k%; -%- Q6 Qz w yVV q-%k8z QzKz zq z8 X %6-K kq/ %q K-% Wkz_W-/ —

8z q K/z Wz -6k% 6%6— z %z - Q z z%_ (— 1 _6 M_ ' Q6 Qz -6k% k/ qKz %
6 Q- K /- QK 6 -k%; 6 z K-%K %- Kk%; Wk%qz Qz dK V...z%...z% -QK/K

; - z %..z%6—k% K-%k%- Qz / %q K-%-/ \$%z 6 z 3z8K- _ g g g

W, i Y_)_M, WMPi A, na. R_ m6 K% - z%z8 Qz z% z - y%z %z z6.. K% WQz w yVV q6% - q-% K K-%6—K% 8z K%-6 %z 6 z z8K- K6-8zqKK-% - z Q6 ... z Q-8 - q- z - %6.. z% z z% W% z Kz Qz... - zz¶ w w w : z .. K K-%-8- -_

'Qz -6k%k/ 6; ..z% z -z -- % Qz - k4k%-/ K z z WY%k z K -/ w Kq-%k% -/z - z..z K h6..z u_m - W Qy WQ6 Qz z K 6 k3z -- zq-; %kz8 8K k%q K%7z zz% 6; 6..zW QkqQ K 6-6% %z -; 6%k6 k%q6%8-W6%8 6 q-... -z-z 7 -68q6 - z6...-/6; 6..zW QkqQ K -k. kz8 - Qz 6 - k6 z k,Q Q-8z_ (-_ 1 _6 M Az... Q6 K 7 -6k%k/ R v _m - 8-z % q-6k... QK 8K k%q k% K k8z -- zq-; %kz8 k%d K V..z%8..z% -6 WQ- z z W6 7 xq k% QkqQ Qz q-6k.. % z z kz_) _ (dp dW -1 _ y K % _ y% z68 WQz -6k%k/ 6%8 v _m - 76 z QK 8K k%q k%-% Qz 6%86 8 6q kqz k% -- ; 6%k6 k% W7-Q -/z k-66%8 z8 q6 k-66-W-; 6% z q-- Kz k,Q - 6 kq -6 ... z8k6 -- ; 6%k6 k-66 - k%q z6 z Qz 6-z-/ Qz k,Q W6%8 Q z z%z - Qz -; 6%k6 k-66 (-_ 1 _ -

n'', Qz -64%/kK/ 8-6 z... -X K QzKzq--Kz K;Q q-%6q66K.zW-6qz6%8..6%/z z KqK%/kQ-zzW-QKqQ8z/z%66%688z K%) zq K-%yv_7z--_

6 Ma_ 1 Qz 6%86 8 6q Kqz -/ -/z K-%6-6%8 q--z; z - -; 6%K6 K-% 6 z K z-z 6% - Qz q-% K K-%6-K z z z%z8 Qz z

(-/z K-%6--- - ; 6%K6 K-% 6 z K6 z 7 K%z z Q-z 6qqz - KqKz %zz8 %-6 K/ Qz 5-% K K-%_ Wna Y__6 aMP_u Kqz KzWQz w yVV q--z; K6 z q- %z 6 WQz k 6 K-%6-5--z; K6 z V Qz-Kq V -qK6 K-%WK %-6 6 z 6q - - K - KqKz %zz8 %-6 K/ Qz 5-% K K-%_ g Wii Y__, an Wn-PMLL Anii R_ 'Qz w yVVW q-% 6 WK 6 6 z 6q - 7- %8 - Q-%-6 6%8 z%- qz \$3Qz 5-% K K-%_ __\$ QKqQ86 z\$3 Qz 7-Kq 6%8 Qz z z 6-6qqz - %qz; - z %. z% Q6 - z%z8 K 8-- _ g - gW-i Y__, Wl Anai RA z 6 Wh_Wq-%q R6 R_ Vqq-8 R6-W Qz w yVV K %-/zz - z... 6-z Qz ... z8 K6 F6qqz - KqKz -/ q--z; K6 z 6%8 -/z K-%6-- - -; 6%K6 K-% W6 V _m- ;; z _

dk%—WQz -6k%k/ 6 z... - X K QzK z q—Kz z6..k% F kQ q—% 6q 6 6

z6 -%67-z- K. zW-6qz 6% ...6% z z kq K-%W QkqQ Qz dK V...z% ...z% z ...K z z%k%6

68KK-%6— 8z k, %6 z8 7-kq/- ..._ (—_ 1 _6 MPF-_ ' Qz 688 z Qz Qzz z Kz8

z-z...z% -/ 6 6-ks K. zW-6qz 6% ...6% z z kq K-%W k, %- z Qz ...- / %86...z%6—

z Kz...z%-/6—FF Q6 Qz z kq K-%6 — z z%Q6%sz8—-6— K. K6-— K 6 z8 z6¶z _

g - gWPMY) _1. LW. n A, ni, R_

'Qzq6z... / z z%—qKz8/- K K.zW-6qz6% ..6% z 6% K K

_K.6 z—z8 Qz qK -8z z— q-... zQz%Kz kz : -¶5 K (6¶ vz 6 ..z% Y z

J №z-№z /- Qz k 6 ...7z ; 16% Qz—Q6 ; - z % z -/ QK 6¶ z% z_ g6 ai PFi a_

G q—Kz..z8K6FKQ —KqKz—Hqz QzwyVV Q6 z 67-KQz8 q6%6 6-K 6 K.zW

-6qz — ...6% z z Kq K-% 7zq6 z Qz 8-% z; -6-z Qz K.zW-6qz — ...6% z -/ Qz

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g W, Ld_-8, LMnW, L MAn Q5 K_MLLMW $- \mathbb{R}'_{\phi}$

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q-..... z qK6-68 z KR% --KqKz R66... %KqK6-- z%z z 6-8z K,%/6 - -%z R8K K8 6-- z 6%-Qz R%7zq6 z K z/-zq 6%8 z%- qz 6 8Kq K. R6-8z K,%/6 - -%z R8K K8 6-- z 6%-Qz R% z - R% -% 7-Kq z z% _ W, , d-86 , L-a_

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Q- -8-% 7z q-.... z qK6-Kz8-Kqz -/z K-%6— - W6 QzwyVV Q6 8-%z

w Qz Qz z q—Kz..z8K6F KQ q—% 6q Q- -8-7z z8 - Qz—q- z - %6..z%

z z%z K % 6 — Kq 8zqK K-%/- Qz w yVVWK ..z...7z - Qz -z; K-6- z - 8zqK3z_y

z z% 6 / %86..z%6— z K-%-/ q-% K K-%6—6 Q6 QK q- ... 8zqK3z k% Qz /K

k% 6%qz 7zq6 z Qz w yVV K 6 6 z 6q - _ ' Qz -6- ; - z %k% Q6 z K-%-z68 -%- - - %z

q-%q—K-% z q—KK k/Qz z%—q-%-Kq KQ Qz q-% K K-%6-; 6 6%zz -/ / zz zzqQ6%8

z 6— - zq K-%_ ' Qz q- Q- -8- z x q Qz -6-k% k/ - - z8 8zq-6-6 K-%76 z8 -% Qz

<u>m</u>
"-7z h_v z
c -%46)6%6 c 6 K6

J p v d" G: D r Vmk W _5 _ p %z G6 c 6k%) zz W Kz PLL (- p // Kqz 1 - Ma, n c 68K - %W y P-aL, FMa, n (Q-%zt 1 Li FMPaF-n,, d6 t 1 Li FMPaFLl Ln G..6K + 8 z 9; ¶-6- q-...

- g g - g

.1.-LMB,