Executive Summary
The HICAHS Advisory Board should play a key role in providing guidance, advice, and feedback on the progress, direction, impact, and effectiveness of the Center. The intent of the HICAHS Advisory Board meeting is to receive feedback from board members on whether HICAHS is meeting perceived needs for the agricultural community. This year HICAHS asked its board members to consider restructuring the board to improve interaction and feedback between the External Advisory Board and HICAHS staff.

In preparation for the meeting advisory board members received a letter with the current HICAHS Vision, Mission, and Goals, and a draft list of advisory board roles and responsibilities (see page 19). In a private meeting without HICAHS staff, board members drew up a list of recommendations for HICAHS. The dominant, recurring theme of the comments was feelings of appreciation for the work of the Center and an affirmation of its importance to the agricultural community.

A summary of the recommendations is below; see page 7 for complete notes from Dan Hair and Mike Taylor.

- The board did not create a position for a board chair. If HICAHS chooses to have a board chair, this person should not be affiliated with academia and he/she should be connected to interests that are core to the Center’s purpose.
- The board decided to accept the current draft of board responsibilities. Following the meeting, revisions were made so that the responsibilities are congruent with the actual operation of the board, including eliminating the minimum/maximum number of board members and eliminating the need for an executive committee. (See page 5 for the final version.)
- Duties for advisory board members need to be defined in writing and communicated to board members, particularly new board members. A more formal orientation would be helpful along with a board roster with pictures and bios.
- Advisory board members should be sought from each state that HICAHS services.
- HICAHS should find a way to reach out to safety and health practitioners in the community. There are still many producer organizations in the region that do not know about HICAHS.
- HICAHS should regularly provide concrete recommendations from its occupational safety and health research and deliver these recommendations to workers and business owners. Research takes a long time and recommendations lag even farther behind.
• The board recommends that the HICAHS Annual Report begin to include a recap of the Center’s financial position. This will allow the board to “review the annual budget and provide feedback to HICAHS staff and collaborators,” as described in the HICAHS External Advisory Board Responsibilities.

The board also came up with recommendations on how they could help HICAHS. They offered their help exploring community partnerships that might benefit the Center. They could also provide locations for agricultural research, such as nonprofit and for-profit farms in the Center's service area. These suggestions are not incorporated into the revision of board member responsibilities. Mike Taylor provided a template for establishing working groups (see page 8-9), in case Steve Reynolds wants to follow through on his idea to create External Advisory Board working groups to address emerging issues.

HICAHS is beginning strategic planning for its next competitive grant renewal which will likely be due in December 2015. In preparation, the HICAHS Evaluation Team asked the HICAHS Advisory Board to complete a pilot Regional Needs Assessment and provide feedback on the proposed questions. See pages 25 for the request to board members and page 12 for pilot results. Board members provided HICAHS with the names of members of the agricultural community who should be given the Regional Needs Assessment.

Several of HICAHS’ grant award recipients presented at this year’s HICAHS Advisory Board Meeting, just like last year. Each year HICAHS awards grants to agricultural organizations and members of Extension to conduct health and safety projects of their choice. Their presentations can be found in the appendices. Each board member in attendance provided feedback on the presentations to the HICAHS Evaluation team. Results and analysis of the feedback forms can be provided upon request.

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Attendance

Advisory Board Members

1. Paige Backlund (Partnership of Academicians and Communities for Translation)
2. Debbie Barba (Colorado Corn)
3. Keith Belk (Colorado State University, Department of Animal Sciences)
4. Kevin Dalsted (Water Resources Institute)
5. Robert Ellis (Colorado State University)
6. Dan Fahrenholtz (Northern Colorado Family Medicine)
7. Dan Hair (Workers Compensation Fund)
8. Jessica Hawthorne (Colorado Livestock Association)
9. Ed Hendrikson (SALUD Family Health Center)
10. Brian Schiller (Flood and Peterson Insurance)
11. Clyde Serna (Pinnacol Assurance)
12. Mike Taylor (Risk Management Division)
13. Juan Velez (Aurora Dairy)
14. Bill Wailes (Colorado State University)
15. Randy Wailes (University of Wyoming Extension)

Other Attendees

16. Herb Gibson (OSHA, Denver Regional Office)
17. Tom Levy (Pinnacol Assurance)
18. Craig McConnel (HICAHS Grant Recipient, Colorado State University)
19. Michael Pate (HICAHS Grant Recipient, Utah State University)
20. Joni Triantis Van Sickle (CSU Occupational Health Coordinator)

HICAHS Staff

21. Paul Ayers
22. Bledar Bisha (Also a HICAHS Grant Recipient, University of Wyoming)
23. Vicky Buchan
24. Maggie Davidson
25. Allison De Vries
26. David Douphrattt
27. David Gilkey
28. Paul Gunderson
29. Annie Keeney†
30. Katie Larsen†
31. Louise Quijano
32. Steve Reynolds
33. Noa Roman-Muniz
34. Josh Schaeffer

† Student
<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
<th>Discussion Leader</th>
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<tr>
<td>9:00-9:30</td>
<td>Welcome and Introductions, Strategic Planning and Funding Update</td>
<td>Steve Reynolds</td>
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<tr>
<td>9:30-10:30</td>
<td>Advisory Board Discussion on Organization and Responsibilities *</td>
<td>Elected Board Member</td>
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<td>10:30-10:45</td>
<td>Coffee Break</td>
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<td>10:45-11:15</td>
<td>Feedback from Advisory Board Discussion *</td>
<td>Moderator: Steve Reynolds</td>
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<tr>
<td>11:15-11:45</td>
<td>HICAHS Grant Recipient Project Report</td>
<td>Michael Pate</td>
</tr>
<tr>
<td></td>
<td>“Mobile Respirator Fit Assessment and Training Program for Farmers and Ranchers” *</td>
<td></td>
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<td>11:45-12:45</td>
<td>Lunch</td>
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<td>12:45-1:15</td>
<td>HICAHS Grant Recipient Project Report</td>
<td>Maggie Davidson</td>
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<td>“Bioaerosol Monitoring: preventing the spread of infectious diseases among farmers”</td>
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<td>1:15-2:00</td>
<td>Regional Needs Assessment for Occupational Health and Safety *</td>
<td>Vicky Buchan and Louise Quijano</td>
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<td>2:00 - 2:30</td>
<td>HICAHS Project Update</td>
<td>Paul Ayers</td>
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<td></td>
<td>“Computer-based ROPS Design Program and The National Tractor Safety Partnership” *</td>
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<td>2:30 - 3:00</td>
<td>Closing</td>
<td>Steve Reynolds</td>
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* See Appendices
External Advisory Board Responsibilities

The HICAHS External Advisory Board is committed to assisting HICAHS staff in advancing the mission of “reducing or eliminating accidents and injuries, disease and death resulting from agricultural operations.” This mission is addressed by: undertaking applied research; providing prevention services such as hazard evaluation and control; and developing educational programs for those who work in agricultural production. The External Advisory Board is representative of the HICAHS region which includes Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

I. GENERAL DUTIES
1. Attend scheduled meetings to provide advice and support to HICAHS staff, research projects and educational/outreach efforts.
   A. Generally there is one face-to-face meeting utilizing a one day format.
   B. Conference calls or web conferencing may be requested to assist with specific research or educational efforts.
   C. The term of the External Advisory Board term is congruent with the term of the current granting cycle.

2. Support, encourage, and advise the HICAHS staff in determining research, education and outreach efforts in the region.

II. SPECIFIC DUTIES
1. Program Planning and Evaluation
   A. Advise the HICAHS staff on the priorities and goals for achieving the mission of HICAHS.
   B. Review and assist in evaluating current research, education and outreach projects.
   C. Monitor progress on annual program goals and research objectives as identified by HICAHS staff and collaborators.

2. Resource Development
   A. Review annual budget and provide feedback to HICAHS staff and collaborators.
   B. Use your influence and provide assistance in identifying opportunities for partnerships and serving as advocates for continued federal funding.
   C. Assist and advise in the process of proposal development and grant renewals.
3. Advocacy and Outreach
   A. Promote HICAHS and its impact with the broader public.
   B. Assist in promoting and building positive relations with HICAHS and stakeholders, constituents and collaborators.
   C. Identify prospective External Advisory Board members and promote HICAHS to these individuals.
   D. Assist in the public dissemination of research findings and education/outreach efforts.

III. Board Composition
Advisory members will be selected based on interest/knowledge areas, a willingness to be actively engaged with HICAHS activities and ability to help expand influence and research in agricultural health and safety.
Dan Hair Notes

The discussion was enthusiastic and the entire HICAHS Advisory Board participated. The dominant, recurring theme of the comments were feelings of appreciation for the work of the Center and an affirmation of its importance to the agricultural community.

Suggestions:

- The group was wary of adding a lot more structure - feeling a bit more might be worthwhile but not much.
- The materials you provided at the meeting clarified some questions members had about their duties and should be adopted.
- An annual recap of the Center’s financial position and needs might be appropriate - but the Board did not view themselves as fiduciaries
- In our meeting we need to capture the impacts of the Center’s programs on the ag community
- We should explore other community partnerships that might benefit the Center (Dr. Buchan reported on this later in the meeting)
- There are still many producer organizations in the region that do not know about HICAHS
- HICAHS should find a way to reach out to S&H practitioners in the community and coordinate with them, e.g. trade association safety professionals
- Great research is the goal but so are short term deliverables to workers and business owners
- More formal orientation of new Board members would be helpful along with a Board roster with pictures and bios

Mike Taylor notes

- Welcome and introductions
- Activities at the Center
  - Want to keep addressing the need for the dairy industry but not ignore other issues.
  - There have been some challenges with funding over the years. They have been trying to measure what they are doing. Have been looking at programs on a national level trying to educate those in Washington. There has been an increase to 23 million nationwide from 22 million the previous year. Working with congress on 2015 budgets.
  - In 3rd year of 5 year cycle. Starting strategic planning for renewal. Will be gathering information and doing a needs assessment. Will be looking at the board to determine if the right people are on the board to address needs. Will continue to look at the dairy industry. Will look at staff and programs at the university.
• Advisory Board discussion
  o Should consider sharing financial information. It should be an annual financial report. The purpose would be for the board to see where the financial resources are being expended.
  o Purposes include promoting funding from local and regional entities including state governments through legislation, providing and coordinating research opportunities, provide advice on agricultural safety and health needs and emerging issues.
  o Duties for advisory board members need to be defined in writing and communicated to board members, particularly new board members.
  o Deliverable recommendations should be provided to production entities participating in research. Research is typically long term and concrete recommendations are too lagging.
  o Advisory board members should be sought from each state that the center services.
  o The board chair should be a local person who is not affiliated with academia. They should have time to provide volunteer service and should be connected to interests that are core to the Center' purpose.

• Working Groups. Steve mentioned that specific groups could be put together to address emerging issues. I have information on our working group approach which includes establishing an initiative. The initiative has a written outline with various components including objectives, time line, in scope, out of scope, and so on. Working groups typically have a short term focused objective and includes 5-6 members. See Initiative Template on the following page.

• Grant Project Report.
  o Machinery related accidents are the top concern.
  o Adult respiratory problems are the top health issue and disease concerns.
  o There should be a continued emphasis on retrofitting older tractors.

• ROPs. For orchards, use fold-down ROPs. Better, the ROPs should be automatic. Explosive ROPs are also available. ROPs are required when tractors used in orchards are used outside the orchard.

• Remind staff regarding Ag safety and health YouTube channel.
• Respond to request in the future to support funding renewals.
• Coordinate on providing locations for agricultural research. Does the Center want a list of nonprofit and for profit farms in the Center’s service area?
## (Name) Initiative

<table>
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<tr>
<th>Sponsor</th>
<th>Charter Date</th>
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<tbody>
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### Opportunity Statement

### Goals and Objectives

### Audience | Stakeholders | Customers

### Processes

### Scope

<table>
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<tr>
<th>In Scope</th>
<th>Out of Scope</th>
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### Participation

### Approval Requirements

### Timeline and Milestones

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<tr>
<th>Analyze</th>
<th>Plan</th>
<th>Develop</th>
<th>Implement</th>
<th>Evaluate Results</th>
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<td>Milestones</td>
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### Cost

### Information Systems Impacted

### Team
Respirator Training Program and Fit Assessment for Agricultural Producers

Michael Pate, PhD
Agricultural Systems Technology

Outline

• Background/Significance
• Project Development
• Goals
• Work to Date
• Future Implementation

Background/Significance

Project Development

• Accessible
  – Mobile
  – Internet based
• Problem Solving Approach
  – Hazard assessment
  – Solution Justification
  • Selection of protection

Goals

• Specific Aim 1: Determine Utah farmers’ and ranchers’ use of respirators, knowledge of respirator types, training experience and fitting procedures, and perceived barriers/facilitators of respirator use in production agriculture work.
• Specific Aim 2: Implement a mobile fit assessment and training program for N95 respirators used by Utah farmers and ranchers.
• Specific Aim 3: Evaluate the effectiveness of the mobile respirator training program at changing participants’ attitudes and behaviors following three months after completion of the program.
Work to Date

- TSI Portacount 8038
  - Calibration and Training
- N95 Particulate Filtering Facepiece Respirators
  - Various styles and brands have been acquired for testing
  - Participants will receive a free sample
- 3M electronic health questionnaire
- Pre-test/Post-test Survey
  - Theory of planned behavior

Piloting Curriculum

- 53 individuals
  - 50.9% had not received any respirator training
  - 39.6% had received fit testing for a respirator they wear
- Disadvantages to using it for agricultural work
  - Hot
  - Uncomfortable
  - It is in the way

Future Plans

- Phase II
  - Develop and Implement Marketing and Recruitment Programming
    - Utah Public Radio Collaboration
  - Develop training focused on Elastomeric
    - Half
    - Full
    - PAPRs
    - SCBA
  - Environmental Monitoring
    - Concentrations
    - Particulates

Thank you!

- Questions
Advisory Board Pilot of Regional Needs Assessment

HICAHS Evaluation Team
February 21st, 2014

Respondents

- N=15
- Response rate of 44%
- Sections of the Instrument
  - Awareness
  - Level of Concern
  - Emerging Issues
  - Future Planning

Top 5 General Agriculture & Forestry Concerns

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<th>Concern</th>
<th>Mean</th>
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<tbody>
<tr>
<td>Occupational Health and Safety</td>
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<tr>
<td>Federal Legislation</td>
<td>4.50</td>
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<td>Water Rights</td>
<td>4.27</td>
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<tr>
<td>Immigration</td>
<td>3.93</td>
</tr>
<tr>
<td>Price of Ag Commodities</td>
<td>3.73</td>
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Top 5 Injuries & Safety Concerns

<table>
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<th>Concern</th>
<th>Mean</th>
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<tbody>
<tr>
<td>Machinery Related Accidents</td>
<td>4.53</td>
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<tr>
<td>Youth Injuries</td>
<td>4.27</td>
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<tr>
<td>Back Injuries</td>
<td>4.20</td>
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<tr>
<td>ATV's</td>
<td>4.00</td>
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<tr>
<td>Animal Related Injuries</td>
<td>3.93</td>
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</table>

Top 5 Health Issues & Diseases Concerns

<table>
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<tr>
<th>Concern</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Respiratory Problems</td>
<td>4.33</td>
</tr>
<tr>
<td>Zoonotic Diseases/Infections</td>
<td>4.27</td>
</tr>
<tr>
<td>Health Problems-Confined Spaces</td>
<td>4.07</td>
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<tr>
<td>Pesticide and Fertilizer Related Illness</td>
<td>4.00</td>
</tr>
<tr>
<td>Skin Reactions</td>
<td>3.93</td>
</tr>
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</table>

Emerging Issues

- What are the current occupational health and safety concerns you are seeing?
- Are you noticing changes in the agriculture and forestry industries as a whole? (e.g. less locally owned farms, increase use of robotics, ATV’s etc.)
- How do these changes impact your constituency? (e.g. members, people you serve)
Emerging Issues

Are you noticing any changes in the health and safety procedures or protocols in agriculture and forestry?
- Increase awareness of need for safety planning
- Increase government regulations

![Graph showing noticing any changes in health and safety procedures]

73.3% of respondents believe there should be a continued focus on retrofitting older tractors.

In your opinion, is there a need to continue focus on retrofitting older tractors with ROPS?

![Bar chart showing need to continue focus on retrofitting old tractors]

Future Planning

What are the top 2 issues you see affecting the safety, health, & productivity of your constituents in agriculture & forestry?
- Management Adoption of a Safety Culture
- Training
  - Culturally & linguistically relevant training materials
- Food Safety
- Biohazard Exposure

"The research is much needed, but there is a need for a tangible source of training and educational material both written and on site (visual)."

Future Planning

Food Safety, Environmental Sustainability, One Health

![Bar chart showing future planning ratings]
- National ROPS retrofit program
- Development of a Computer-based ROPS Design Program

Paul Ayers
Biosystems Engineering
University of Tennessee

ROPS Saves Lives

- Tractor rollover still the leading cause of agricultural fatalities in the US
- Roll-over Protective Structures (ROPS) virtually eliminate tractor rollover fatalities
- Over 2 million tractors in the US are not equipped with ROPS

NY ROPS Retrofit Program-
Established in 2006

Call the ROPS Hotline 1-877-ROPS-R4U or visit www.ropsr4u.com
Complete Intake Form
List of price estimates and ROPS sources are sent
Kentucky ROPS Guide

Retrofitted tractor

Call ROPS Staff for pre-approval and to confirm ROPS placed on order
Send proof of purchase and installation
Rebate check mailed within 30 days ($600 or 70%)

Making Progress

- 4094 calls to the hotline
- 1520 tractors retrofitted
- 122 close calls identified
- 99% recommend to other farmers

Saved Lives-
Annual Retrofitters Survey

- 14 Tractor overturns / life threatening incidents

Known Serious Injuries / Fatalities Prevented by ROPS Program
Our Proposed Strategy...
National ROPS Retrofit Initiative
National Tractor Safety Partnership

- NIOSH 4 YR Funding Application
  - develop promotional plan
  - develop logistical support
  - insure adequate supply
- Whole System in a Room (WSR)
  - May 2014, Chicago, IL
  - provide promotional opportunities
  - provide rebate funding

WSR Groups

- Manufacturers and Dealers – INDUSTRY INVITED
- Agricultural Organizations
- Activists
- ROPS Advisory Group
- Health and Safety Organizations
- Financial and Insurance
- Government
- Private Corporations
- Media

Development of a Computer-based ROPS Design Program

- ROPS designs are not available for many US tractors
- Need a fast design program to assist in the development of ROPS for these tractors

Need- A simple approach to develop 2 post ROPS mechanical drawings from tractor dimensions/mass

Input – Tractor dimensions and mass
Output – Mechanical drawings for ROPS construction

ROPS Design

- ROPS designs require a balance of:
  - 1) ROPS material strengths and allowable deflections to meet energy criteria,
  - 2) elasto-plastic material behavior to reduce peak moments at the mounting brackets, and
  - 3) ROPS positioning and alignment in order to meet appropriate operator protection.
- Based on SAE J2194 ROPS Standard

Tractor Dimensions (sample) – 46 needed

- Tires/Axles:
  - rear tire diameter (RTD)
  - rear tire width (RTW)
  - front tire diameter (FTD)
  - front tire width (FTW)
  - front tread width (center to center) (FTRW)
  - rear tread width (center to center) (RTRW)
  - tractor wheel base (horizontal distance from front axle to rear axle) (WB)
  - vertical distance from ground to front tire point (FTPZ)
  - vertical distance from ground to rear tire point (RTPZ)
  - vertical distance from ground to top of back seat rest (BSRZ)
  - front tire movement (+ and -) (out and in) (FTMP, FTMN)

- Seat:
  - horizontal distance from rear axle to SRP (+ is towards front) (SRPX)
  - vertical distance from ground to SRP (SRPZ)
  - vertical distance from ground to top of back seat rest (BSRZ)
  - thickness of back seat rest (STTH)
Example - Input Tractor Dimensions (46)

14 tractor/ROPS combinations measured

Computer Design Program Model (using Excel)

Model

Tractor Inputs → ROPS Design Decision Criteria (from database) → ROPS Outputs

ROPS Output (28)

y = 0.8652x + 48.634
R² = 0.8964

Presentation 3

ROPS Design Decision Steps

- Enter tractor dimensions and operating weight
- Based on SRP dimensions and movement, determine proper SRP location
- Based on steering wheel dimensions and movement, determine proper top steering wheel location
- Based on front and rear treadwidths and movement, determine proper front and rear tire points.
- Use decisions to determine top ROPS point with respect to true SRP location.
- Determine ROPS length and angle based on top ROPS point and top of rear axle housing
- Determine ROPS size, base plate thickness and bolt diameter based on tractor weight
- Determine ROPS crossbeam size the same as ROPS stem size.
- Determine bolt length and base plate size based on axle housing dimensions
- Determine max and min allowable ROPS width based on bolt groove locations
**ROPS Design Decision Steps**

- Determine minimum desired ROPS width based on weight.
- If minimum desired ROPS width is less than minimum allowable ROPS, increase ROPS thickness and lateral dimension, and strapping length.
- Determine bolt groove selection and based on axle housing groove selection and ROPS width.
- Check distance from operator zone to ground plane, and calculate allowable lateral and longitudinal deflection. If needed adjust ROPS height, width, angle or size.
- Determine ROPS crossbeam length from ROPS width.
- Determine top baseplate size, bolt hole locations, ROPS inside/outside location based on ROPS width and bolt groove locations.
- Determine bottom baseplate size and bolt location based on top baseplate size and bolt location.
- Determine strapping thickness and length based on tractor weight and ROPS length.
- Use ROPS dimensions to develop construction drawings.
- Use ROPS dimensions to determine ROPS material and costs.

**ROPS Design Criteria**

- **Baseplate thickness:**
  - If OW < 2000, RBTH = 0.75
  - If OW 2000-3000, RBTH = 1.0
  - If OW 3000-4000, RBTH = 1.25
  - If OW > 4000, RBTH = 1.5
- **Bolt diameter (BD):**
  - If OW < 2000, BD = 0.5
  - If OW 2000-3000, BD = 0.625
  - If OW 3000-4000, BD = 0.75
  - If OW 4000-5000, BD = 0.875
  - If OW > 5000, BD = 1.0
- **ROPS size (RPBY, RPBX, RPTH):**
  - RPBY = 2.0
  - Weight < 2000 lb, RPBX = 3
  - Weight 2000-4000 lb, RPBX = 4
  - Weight >= 4000 lb, RPBX = 5
  - Weight < 3000, RPTH = 0.25
  - Weight >3000, RPTH = 0.375
- **ROPS width:**
  - Weight < 2000 lb, RPW = 33
  - Weight 2000-4000 lb, RPW = 35
  - Weight >= 4000 lb, RPW = 37

Model designed for tractors with square/grooved axle housings.
ROPS Design Decision Criteria

- Baseplate thickness (RBTH)
  - If OW < 2000, RBTH = 0.75
  - If OW 2000-3000, RBTH = 1.0
  - If OW 3000-4000, RBTH = 1.25
  - If OW > 4000, RBTH = 1.5

- Bolt diameter (BD)
  - If OW < 2000, BD = 0.5
  - If OW 2000-3000, BD = 0.625
  - If OW 3000-4000, BD = 0.75
  - If OW 4000-5000, BD = 0.875
  - If OW > 5000, BD = 1.00

- Bolt Hole Diameter (BHD) = BD + 0.125

- Bolt length (BL) = 1.0 + 2*RBTH + AHHZ
  - If less than 8, =8. If between 8-10, =10. If between 10-12, =12.

- Baseplate width (RBX) = AGSX + 2*(BHD) + 2.0

Upcoming Activities

- Develop plans for “unavailable” tractor ROPS
- Construct and test ROPS according to SAE J2194
- Evaluate/modify program
- Evaluate with ROPS manufacturers

Final Intervention Product

- Excel ROPS design program
- Input – tractor dimensions/mass
- Output – Mechanical drawing of ROPS design, parts list and material costs
- Manual/operators guide

For ROPS construction and testing, not certified as meeting SAE J2194 standard

Questions?
January 13, 2014

Dear HICAHS Advisory Board Members,

We are looking forward to seeing you for our annual HICAHS External Advisory Board meeting in Ft. Collins on February 21, 2014. Every year we hold a meeting with the intent of receiving your feedback on whether we are meeting perceived needs for the agricultural community. This year we would like you to consider restructuring the board to improve interaction and feedback between the External Advisory Board and HICAHS staff.

As described by NIOSH (page 2), the HICAHS Advisory Board should play a key role in providing guidance, advice, and feedback on the progress, direction, impact, and effectiveness of the Center. We are also attaching information on the current HICAHS Vision, Mission, and Goals (page 3), and a draft list of advisory board roles and responsibilities (page 4). Please take time to review these documents before our meeting. We are also asking you to select a chair, and to consider revising the makeup (membership), roles and responsibilities of the board.

A key reason for this request is that we are beginning strategic planning for our next competitive grant renewal which will likely be due in December 2015. We believe that our current efforts, especially focusing on the dairy industry programs, are resulting in important impacts and we hope to build on these efforts. However we do not want to neglect other agriculture and forestry needs in the region. For additional background on progress to date, our last annual report is also attached.

In the past the HICAHS External Advisory Board has played an important role in strategic planning and in preparation of our grant proposals. We would like to engage you again in helping determine our priorities, approaches, and specific future programs and projects. With the continuing funding challenges, your advice will be particularly critical.

Thank you for your service to the HICAHS Advisory Board. We look forward to seeing you at the 2014 meeting.

Sincerely,

Stephen J. Reynolds, Ph.D., C.I.H., Fellow A.I.H.A.

Director, High Plains Intermountain Center for Agricultural Health and Safety (HICAHS)
970-491-3141
Stephen.Reynolds@colostate.edu
NIOSH External Advisory Committee Specifications

The High Plains Intermountain Center for Agricultural Health and Safety (HICAHS) is organized according to the structure prescribed by its primary funder, the National Institute for Occupational Safety and Health (NIOSH). NIOSH provided the following specifications for Ag Center advisory boards. As you read these specifications please consider whether the HICAHS Advisory Board meets these specifications. If not, how can the advisory board be improved?

External Advisory Committees provide guidance, advice and feedback to Center Directors, project/program leaders, key center personnel, and project scientists on the progress, direction, impact, and effectiveness of the Center. These committees should include people knowledgeable about agriculture health and safety in the area or region served by the Ag Center. Committee composition should represent the diversity of production agriculture, commercial forestry or commercial fishing activities in 1) area or region served by the Ag Center, 2) the projects being undertaken by the Center, and 3) the goals of the Center. Members could include regional or national agriculture experts, producers, farmers, ranchers, workers, extension specialists, insurers, equipment dealers or manufacturers, healthcare providers, community organizations, or a NIOSH scientist (as a non-voting member).

Annual meetings to review the Ag Center’s progress, direction, successes, impacts and challenges should be convened. These meetings should provide an open exchange of ideas, information, approaches and knowledge on various topics including: effective research translation; linking researchers and stakeholders; identifying effective outreach and education activities; emerging issues; coordinating research across disciplines; and sustainability of established, effective prevention, intervention, outreach and education efforts.

Effective external advisors can serve as force multipliers to enhance Center effectiveness, expand Center reach, and increase the sustainability of Center efforts beyond reliance on NIOSH funding alone.

HICAHS Vision, Mission, and Goals

VISION: A Healthy and Productive Workforce for U.S. Agriculture and Forestry

MISSION: To lead and coordinate regional and national efforts to improve the well-being and productivity of U.S. Agriculture and Forestry workers through increased health and safety awareness and evidence-based practices.

GOALS (Specific Aims):

1. Conduct interdisciplinary research related to prevention or reduction of agricultural causes of acute and chronic illness and disease.
2. Provide oversight to ensure the conduct of scientifically sound research.
3. Implement and evaluate intervention/prevention programs to promote health and reduce hazards in agricultural production.
4. Expand the use of effective interventions by engaging partners among appropriate agricultural groups.
5. Listen and respond to input from advisory boards, agricultural groups, and collaborators.
6. Use input from advisory boards, agricultural groups and collaborators to formulate and enhance outreach efforts.
7. Utilize a comprehensive evaluation model to assess the achievements of the Center.
8. Continue to build agricultural partnerships to enhance diffusion of innovations.
9. Building on our substantial work with the Dairy Industry, establish and provide leadership for a regional HICAHS Dairy Health and Safety Network, HICAHS Dairy Advisory Board, and International Dairy Research Consortium to comprehensively address the industry’s needs effectively and comprehensively.
10. Develop new partnerships and build capacity to address health and safety in Beef and Forestry.

Advisory Board Responsibilities

The HICAHS Advisory Board is committed to assisting HICAHS staff in advancing the mission of “reducing or eliminating accidents and injuries, disease and death resulting from agricultural operations.” This mission is addressed by: undertaking applied research; providing prevention services such as hazard evaluation and control; and developing educational programs for those who work in agricultural production. The Advisory Board is representative of the geographic region including Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming and constituents actively involved in agricultural health and safety.

I. GENERAL DUTIES

1. Attend scheduled meetings to provide advice and support to HICAHS staff, research projects and educational/outreach efforts.
   A. Generally there is one face-to-face meeting utilizing a one day format.
   B. Conference calls or web conferencing may be requested to assist with specific research or educational efforts.
   C. An advisory board term runs congruent with the term of the current granting cycle.

2. Support, encourage, and advise the HICAHS staff and research, education and outreach efforts in the region.

3. Serve in an advisory role for HICAHS staff in determining research, education and outreach needs for the region.
II. SPECIFIC DUTIES

1. Program Planning and Evaluation
   A. Advise the HICAHS staff as to priorities and goals for achieving the mission of the Center.
   B. Review and assist in evaluating current research, education and outreach projects.
   C. Monitor progress on annual program goals and research objectives as identified by HICAHS staff and collaborators.

2. Resource Development
   A. Review annual budget and provide feedback to HICAHS staff and collaborators.
   B. Use your influence and provide assistance in identifying opportunities for partnerships and serving as advocates for continued federal funding.
   C. Assist and advise in the process of proposal development and grant renewals.

3. Advocacy and Outreach
   A. Promote HICAHS and its impact with the broader public.
   B. Assist in promoting and building positive relations with HICAHS and stakeholders, constituents and collaborators.
   C. Identify prospective advisory board members and promote HICAHS to these individuals.
   D. Assist in the public dissemination of research findings and education/outreach efforts.
III. Board Composition

A. Advisory board membership will be limited to a minimum of (?) members and maximum of (?) members.

B. Advisory members will be selected based on interest/knowledge areas, a willingness to be actively engaged with Center activities and ability to help expand influence and research in agricultural health and safety.

C. There will be an Executive Committee not to exceed five persons selected to represent the major sectors that comprise the Advisory board membership. Executive Committee members will be selected by HICAHS staff and serve for the duration of the granting period. The Executive Committee will serve as a rapid response team to requests from the HICAHS staff and provide timely advice as requested from the Center.
January 30, 2014

Dear Advisory Board Member:

HICAHS is beginning to plan for the next funding cycle. To assist with that planning process, the HICAHS Evaluation Team has been charged with undertaking a *Regional Needs Assessment*. As a first step, we would like your assistance with piloting the draft instrument. Your participation is two-fold:

1) Complete the survey to the best of your ability. Your responses are important to us and we will include them in our final report.

2) Since this is a pilot test, we want to be sure the questions on the instrument are clear. Please make notes/comments regarding wording choices, phrases and/or the need for any clarifications on the actual instrument itself.

The first section of the survey is regarding *Regional Awareness* of the CDC/NIOSH funded AgFF Centers. Feel free to skip this section of the survey and begin the survey at the *Level of Concern* section.

The survey is included below as a word document. A draft version of this instrument is attached and we are asking you to complete the pilot survey and provide comments by February 14 (Valentine’s Day). A prize will be given to the first three people who return complete it!

You can provide your feedback one of two ways. Either print off the document and send to:

Vicky Buchan, PhD  
134 Education Building  
Colorado State University  
Fort Collins, CO 80523-1586

Or, electronically fill out the survey and email to annie.keeney@colostate.edu.

Please return this survey by February 14 so that we can provide an overview of the results at the HICAHS Advisory Board meeting on February 21. Thank you so much for your time! Your feedback is incredibly valuable to the future of HICAHS.

Sincerely,

The HICAHS Evaluation Team

Vicky Buchan, Director of Evaluation, 970-491-5211, Victoria.Buchan@ColoState.EDU  
Louise Quijano, Co-Director of Evaluation  
Annie Keeney, Graduate Research Assistant to Vicky Buchan  
Allison DeVries, HICAHS Coordinator
HICAHS Needs Assessment

1. Are you aware of the Agricultural and Safety Centers throughout the country?
   ☐ YES ☐ NO

   a. Are you aware of the High Plains Intermountain Center for Agricultural Health and Safety (HICAHS) located at Colorado State University?
      ☐ YES ☐ NO

   b. If yes, what do you know about HICAHS?

   c. If no:

   The High Plains Intermountain Center for Agricultural Health and Safety (HICAHS) is dedicated to improving the health, safety, and well-being of those working in the agriculture, forestry, and fishing industries. Working in these industries is dangerous, and HICAHS aims to reduce the injury and fatality rate through outreach, education, and research. HICAHS is part of Colorado State University and is sponsored primarily through the National Institute for Occupational Safety and Health, a non-regulatory federal agency established to help assure safe and healthful working conditions for working men and women.
1. Are you aware that Agriculture, Forestry and Fishing has the highest rate of on the job injuries and fatalities?

- [ ] YES
- [ ] NO

If No:

The agricultural, forestry and fishing industry is one of the most dangerous occupations. Those working in these industries are up to 40 times more likely to die on the job than workers in other industries.

II. Level of Concern

This section first asks about your perceptions of general agriculture and/or forestry concerns. The 2nd and 3rd sections ask about your perceptions on specific health and safety issues.

1. We are interested in learning your perception of the relative importance of several issues that are often concerns for agricultural and forestry producers. I will list each item individually and ask you to rate each one on a scale of 1 to 5, with 1 meaning that you have little or no concern about the matter (low priority) and 5 representing considerable concern (high priority).

<table>
<thead>
<tr>
<th>Not at all Concerned</th>
<th>Very Concerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Erosion and/or depletion of soil</td>
<td>1   2   3   4   5</td>
</tr>
<tr>
<td>b. Water rights</td>
<td>1   2   3   4   5</td>
</tr>
<tr>
<td>c. Price of agricultural commodities</td>
<td>1   2   3   4   5</td>
</tr>
<tr>
<td>d. Price of land</td>
<td>1   2   3   4   5</td>
</tr>
<tr>
<td>e. Price of equipment</td>
<td>1   2   3   4   5</td>
</tr>
<tr>
<td>f. Federal legislation</td>
<td>1   2   3   4   5</td>
</tr>
<tr>
<td>g. Immigration</td>
<td>1   2   3   4   5</td>
</tr>
<tr>
<td>h. Precision Agriculture</td>
<td>1   2   3   4   5</td>
</tr>
<tr>
<td>i. Climate</td>
<td>1   2   3   4   5</td>
</tr>
<tr>
<td>j. Occupational Health and Safety</td>
<td>1   2   3   4   5</td>
</tr>
</tbody>
</table>

2. How concerned are you about the following SAFETY ISSUES/INJURIES encountered in the field of agriculture and forestry for workers? (use same scale; 1 means little concern and 5 represents considerable concern)

<table>
<thead>
<tr>
<th>Not at all Concerned</th>
<th>Very Concerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Animal related injuries</td>
<td>1   2   3   4   5</td>
</tr>
<tr>
<td>b. Back injuries</td>
<td>1   2   3   4   5</td>
</tr>
<tr>
<td>c. Stress related injuries</td>
<td>1   2   3   4   5</td>
</tr>
</tbody>
</table>
d. Eye injuries 1 2 3 4 5  
e. Hearing loss 1 2 3 4 5  
f. Machinery related accidents 1 2 3 4 5  
g. Tractor Rollovers 1 2 3 4 5  
h. Youth Injuries 1 2 3 4 5  
i. Confined Spaces (e.g. grain silos) 1 2 3 4 5  
j. ATVs 1 2 3 4 5

3. You indicated ____________ as your number one concern for safety issues/injuries. Do you feel it is currently being addressed by anyone?

4. How concerned are you about the following HEALTH ISSUES/DISEASES encountered by workers in the field of agricultural and/or forestry? (use same scale; 1 means little concern and 5 represents considerable concern)

   Not at all Concerned   Very Concerned

   a. Pesticide and fertilizer related illness 1 2 3 4 5  
   b. Problems created by confined spaces 1 2 3 4 5  
   c. Adult respiratory problems 1 2 3 4 5  
   d. Childhood respiratory problems 1 2 3 4 5  
   e. Skin reactions/disease 1 2 3 4 5  
   f. Zoonotic/infections 1 2 3 4 5

5. You indicated ______________ as your number one concern for health issues/diseases. Do you feel it is currently being addressed by anyone?

6. Are there additional efforts that you are aware of for improving Ag Health and/or Safety (local, regional, national)?
7. Are you or your organization specifically involved in any efforts?  
☐ YES        ☐ NO  
If yes, what?

III. Emerging Issues

For the following questions we are interested in knowing about emerging issues or trends in Agriculture and/or Forestry?

1. What are the current occupational health and/or safety concerns you are seeing?

2. Are you noticing changes in the agriculture and/or forestry industry on a whole? (e.g. less locally owned farms, increase use of robotics, ATV’s etc.)

3. How do these changes impact your constituency (e.g. members, people you serve)?

4. Are you noticing any changes in health and safety procedures or protocols in agriculture and/or forestry (e.g. best practices, legislation)?  
☐ Yes        ☐ No  
If yes, what?

5. Currently the largest number of fatalities in agriculture are caused by tractor roll overs. Addressing the need for tractors to have ROPS (roll over protective structure) has been a common focus of the Ag Centers. In your opinion, is there a need to continue this focus on retrofitting older tractors with ROPS?  
☐ YES        ☐ NO        ☐ UNSURE
IV. Future Planning

The final questions will be particularly useful for new HICAHS projects.

1. Looking forward in the next 5 years, what are the top two issues that you see affecting the safety, health and productivity of your constituents in Agriculture and Forestry?

2. How might HICAHS help address these issues?

3. Recently, food safety and environmental sustainability have come to the forefront; using the same scale as before please indicate your level of concern.

<table>
<thead>
<tr>
<th>Not at all Concerned</th>
<th>Very Concerned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Safety</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Environmental Sustainability</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

4. In the last few years, the topic of “One Health” has been an increasingly discussed concept addressing the integration of human and animal health to increase production capacity. Using a 5 point scale with 1 being not at all useful and 5 being very useful, how important do you think this concept is to future planning?

<table>
<thead>
<tr>
<th>Not at All Useful</th>
<th>Very Useful</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Health</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
This last section asks for some demographic information. This helps us group responses to better understand the data we receive.

V. Demographics

1. Location/Region: ____________________________
2. Current Occupation:_______________________
3. How long have you been involved in Agriculture and/or Forestry?___________
4. In your role, have you had the opportunity to promote Ag Health and/or Safety?___________
5. If yes, how long and in what capacity? ______________________

Do you have any feedback or additional comments you would like to add?

Would you like to receive an executive summary of the survey results?

☐ Yes    ☐ No

If yes, please provide an email address to send the executive summary to:

_______________________________________________

THANK YOU SO MUCH FOR YOUR TIME!!!!!!