

AFTER ACTION REVIEW ON HEAVY EQUIPMENT USE FIRE SEASON 2016

--DRAFT ONLY--

Ruby's Inn, Missoula, Montana
December 10, 2016

The following is a detailed list of comments and discussion by the ten meeting attendees at the end of Fire Season 2016. All attendees are private contractors and/or members of Montana Logging Association. Each major discussion topic has a list of related Findings, Issues/Problems, Questions, and Recommendations.

Disclaimer: These meeting notes do not represent proposals or decisions made on-behalf of, or by MLA.

DISCUSSION TOPICS

- A. TRAINING
- B. TRANSPORTION
- C. DISPATCH, INSPECTIONS AND DEMOBILIZATION
- D. COMMUNICATION - AGENCY/CONTRACTOR
- E. BUSINESS: CONTRACTING, EQUIPMENT TYPING
- F. SAFETY
- G. INCIDENT COMMAND SYSTEM (ICS)
- H. FIRE TACTICS AND STRATEGY
- I. MISCELLANEOUS
- J. RECOMMENDATIONS - SUMMARY

ACRONYMS

ICT	Incident Command Teams	HETF	Heavy Equipment Task Force
ICS	Incident Command System	HETS	Heavy Equipment Technical Specialist
IC	Incident Commander	MLA	Montana Logging Association
IMT	Incident Management Team	MOU	Memorandum Of Understanding
HE	Heavy Equipment	NRCG	Northern Rockies Coordinating Group
OPS	Operations	USFS	US Forest Service
HEQB	Heavy Equipment Boss	OSHA	Occupational Health and Administration
DIVS	Division Supervisor	TFLD	Task Force Leader
OH	Overhead	GVW	Gross Vehicle Weight
CFR	Code of Federal Regulations	DOT	Department of Transportation
MDT	Montana Department of Transportation		

A. TRAINING

Findings:

1. HETF was a good tool to educate agency folks regarding machines on fires.
2. Agency feedback on HETF is good and helps.
No other regions are using HETFs dispatching; R3 looking at it.

Issues/Problems:

1. The lack of HE knowledge among agency overhead.
2. Awareness training is needed to address the relationship between equipment use, safety and fire behavior.
3. There is a shortage of knowledgeable agency HE overhead personnel available to work on fires.
4. More HE training is needed for agency personnel, especially out-of-region teams.
5. There is a need for agency awareness of MDT requirements affecting contractors, including GVW loading, medical cards, regulation signing and out-of-service work rules...which includes clarification of duty hours vs behind the wheel time.
6. HE is often used inefficiently on fires. There is a need to educate the agency; MLA is a credible group with agency overhead.
7. Often, fireline is located by folks not familiar with HE capabilities, limitations or clinometers/contour maps.
8. How to rebuild agency fire militia culture. (Timber and engineering staff with red card favorable to HE use.) *Ex. ICs, line officers transferring supervision to resource advisors judgement with little HE experience. Many act as agency rules and regulation enforcers, rather than situation problem solvers.*
9. There appears to be a failure with agency training to help backfill HE knowledge for overhead, who are weak in HE experience. *Ex. HE training is concentrated in HEQB (S236), a single-resource low-level training not required for upper level overhead, line or resource advisors.*
10. It has been observed that there are problems with unqualified contractors getting on fires.
11. Agency overhead performance needs training on how to identify and send home bad operators.

Questions:

1. How do we train young firefighters on when, where and how to use mechanized equipment? *Ex. young OH, Type 3 ICs.*
2. Are HE TFLD and DIVS trained and able to manage HETFs with no required HE training in their background? This is also a question of firefighter safety.

Recommendations:

1. Feels agency should require more HE training for fire teams.
2. HE training should be required for all incident operations overhead positions.
3. Increase HE training with assistance from industry contractors as training program advisors. *Ex. Assist with updating NWCG training course materials.*
4. Agency use industry contractors, operators as instructors in agency off-season fire training. *Ex. Assist with HEQB, TFLD-HE, line scouting, equipment inspection, plans, logistics and postfire rehab.*
5. HE overhead and resource advisors need to train in the woods with good experienced operators, including simulated day and night operations. (HE fire training needs to address HE capabilities, limitations, logistics, site/resource impacts, tactics and safety.)
6. Build a regional training cadre of industry and agency to develop and instruct an annual HE training academy.

7. Agency, with industry collaboration, provide regional orientation to outside area IC Teams to include HE dispatching, operations, and HE tactics and strategies.
8. Possible training solution is to use electronic education format. *Ex. Develop HE training materials of Northern Rockies equipment for out-of-region teams being assigned to Northern Rockies incidents.*
9. Key to education and training is increased awareness on safety issues.
 - a. State and Federal regulations and legislation
 - b. What are safe behaviors for ground personnel when around equipment that is running.
10. HE training is needed by specific geographic area for specific jobs. *Ex. Rocky Mountains line scouting for machines.*
11. Develop and offer follow-up training opportunities, beyond HEQB training (S236). *Ex. tactics and techniques, safety issues borrowed from follow-up communications from AARs, previous workshops, accidents and lessons learned, and operator feedback.*
12. Agency and industry collaborate to develop training. *Ex. Live in-woods equipment demo in 2008, University of Montana live in-woods workshops, 2011.*
13. Seasonal refresher training, RT-130, should include HE topics. Create and provide HE awareness level training for RT-130. Training topics could provide a cooperative opportunity for working with HE industry, contractors, state workmans' comp or labor board, and agency trainers – especially safety officers.
14. Need to make agency officials aware of transport rules that apply to contractors, and may conflict with fire agency expectations. Mechanized Task force with leader (contracted TFLD/side-rod foreman) is a good way to educate users (agency) on machine limits and capabilities. Include in agency training MLA MOU.
15. Industry and agency collaborate to develop and implement log book training for fire teams. *Ex. Travel time be included for both ways to/from incident be designated as "emergency".*

B. TRANSPORTATION

Findings:

1. Governor-declared state of emergency on travel regulations and work hours; response 49 CFR regulation 3905.
2. USFS Washington Office has discussed MDT driver time log regulation conflicts regarding agency fire work/rest regulations. At this time no action or push to follow-up has been taken. Their discussion also included bridge vehicle weight limitations. USFS is working with MDT on fire transport waivers. This would apply for equipment and transport drivers.
3. Whoever is interested, check with KE on the status on wording changes regarding work/rest ratios for HE operators. *Ex. 16 hours on/8 hours rest.*

Issues/Problems:

1. We are having dispatch and transport problems, i.e. response times. *Ex. Copper King Fire – needed to shuffle lowboys due to access to fire being 14 miles back from blacktop highway.*
2. Maintaining lowboys that matched road type was a problem due to multiple layers of overhead, causing confusion .
3. Agency lack of awareness of DOT regulations.
4. Need for agency awareness of state, local and federal DOT requirements, including GVW loading, medical cards, regulation signing and out-of-service work rules.

Questions:

1. Do all MDT regulations including driver work/rest hours, permits, load limits and travel hours apply on fires?
2. What is the effect of governor-declared state of emergency on travel regulations and work hours?
3. Are DOT waivers only for tenders and engines, or also for camp rigs? The same for all states?
4. What DOT vehicle regulation classification categories apply to HE contractors on fire? If the regulations differ by state, how can contractors deal with interstate dispatch assignments that involve multiple state regulations?

Recommendation:

USFS and MLA work through Montana governor, or Western States Governors' Council on DOT regulations related to HE use and transport traveling to/from/on wildfires. Also, areas of regulatory conflict between neighboring states related to HE transport.

C. DISPATCH, INSPECTIONS AND DEMOBILIZATION

Findings:

1. Regions 2 and 3 use Region 1 as source for HE; by doing so they save the costs of sign up. Idaho uses local forces first vs. best value system.
2. Signing equipment up as both HETF and a single resource causes double accounting of available equipment. This isn't a problem with skidgines and excavators based on plentiful supply.

Issues/Problems:

1. Present ordering and dispatching process issues are agency expectations of unrealistic travel and reporting timeframes.
 - a. Which equipment in a multiple-machine task force order from same contractor is needed to arrive first?
 - b. Agency estimates of arrival times are often unrealistic given a combination of factors unknown to dispatchers. *Ex. Lowboy availability, distance from present equipment worksite to designated incident check-in location, and the interim steps required; i.e. fueling, washing, inspection, equipment and personnel preparation.*
2. Older equipment on fires presents related problems, i.e. increased breakdowns, limited capabilities, and limited access to improved machine designs and technology. *Ex. Manufacturer-installed machine GPS tracking.*
3. A common practice is ordering and dispatching a HE task force; then, breaking up the task force into single resources while on the incident (example of misuse of taskforce dispatching)
 - a. Transport problems later during active operations and demob
 - b. Response time between dispatch call and arrival to ICP requires staged arrival times for multiple machine orders.
4. Repeated dispatching of poor operators with machine inspection problems. *Ex. Feller buncher turned away at Roaring Lion Fire; then, dispatched to Black Mountain Fire where it failed inspection again, resulting in a delays on both fires.*
5. OPS often does not know what correct equipment and attachments to order given what is available. *Ex. Dangle head vs. hotsaw, leveling cab vs. non-leveling.*

Question:

What is the difference between signing up as HETF or as a single resource at the same time?

Recommendations:

1. Assign agency or contractor personnel with HE knowledge and fire experience to assist dispatch centers during busy, or anticipated busy periods.
2. Industry collaborate with agency to develop and distribute HE dispatching materials, and conduct pre-season training and post-season follow-up evaluation. *Ex. After Action Review involving contractors, OPS and dispatchers.*

D. COMMUNICATION - AGENCY/CONTRACTOR

Findings:

1. Observation: 2016 was a good year; lots of HEQBs interested in learning from the operators.
2. More than 50% of fire resources are contractor resources.

Issues/Problems:

1. Incident contractor performance ratings are designed for one way communication; agency rating the contractor. There is no official feedback loop for the incident records on how well the agency supervisor or ICT functioned from the contractor's point of view.
2. There is little evidence that the agency uses prior performance ratings in identifying problem or exceptional contractors.
3. Some contractors and fire teams experienced communications problems regarding job supervision. *Ex. Different directions regarding the same tasks to the same operator from different levels of overhead, HEQB, TFLD, DIVS.*
4. Contractor community has observed the HE TFLD positions have high attrition rates, and some are not open to operator opinions or advice.
5. Existing incident performance evaluation forms are not standardized, and agency overhead are often not serious on spending time to provide constructive, accurate and useful evaluations. Also, often in the case of HE the overhead is not very familiar with the capabilities and limitations and operational requirements of the machinery. *Ex. Swing machine feller-bunchers used to remove snags in decadent stands have a increased probability of down-time and repair due to the breaking out of tree tops that fall and damage hydraulic hoses.*
6. Increasing costs for contractors to work with agencies on fires, compounded by slow fire seasons, infrequent and short dispatches result in a growing disinterest in agency fire work among MLA members. This situation is resulting in less HE resources and older equipment being offered for contracting.
7. Misconception by some agency personnel that heavy equipment is very expensive in comparison to other fire resources, i.e. aviation, hand crews and engines.
8. Some agency staff show a lack of appreciation for experienced loggers' understanding of local fire behavior and conditions. This is tough when the contractor is a local, and the ICT is from out of the area.

Questions:

1. How can operators provide feedback to the agency overhead and IMT?
2. What is the feedback loop for contractors on agency supervision and performance ratings of contractors?
3. How can contractors make suggestions to the agency, both during and outside of the fire season?

4. What to do with contract issues or conflicts during incident?
5. What is the MLA's role related to fire work for members and non-members? *Ex. seasonal training, cooperation with agencies.*
6. What agency cooperation actions are there to support contractors buying new equipment, as required under agency contracts? *Ex. Radios, new fire shelters.*
7. Is there a contractor pre-regulation issuance review and feedback/comment opportunity prior to the establishment of contract clauses dictating unreimbursed costs to HE fire contractors?
8. Can MLA members qualify and perform as agency overhead? *Ex. Retired loggers hired as AD line scouts, operations logistics or planning positions.* If so, what are the positions and qualifications open to experienced forest workers?

Recommendations:

1. MLA develop a list of question to improve communication with agency personnel, particularly mission/tactic descriptions, demobilization logistics and transport, work/rest hours ratio.
2. Industry and agency develop and conduct awareness level training for contractors and ICT members on how to handle, and with whom to speak regarding conflict resolution of both business contract problems and human resource issues on fires. *Ex. Personality conflicts reflected in performance evaluations.*

E. BUSINESS - CONTRACTING, EQUIPMENT TYPING

Findings:

1. Present Best Value system results in smaller and older equipment showing up on fires.
2. HETF will continue for 3 yr contract period.
3. There are cost data for HE and shot crews; the data are available within the agency to compare costs. The information is difficult to find, and there is little agreement on actual figures and what is included in the costs.
4. Currently, NRCG has a proposal to use private citizens coming in from industry to help with HE fire positions.

Issues/Problems:

1. Conflicting agency OH issuing directions for equipment contractors without following ICS chain-of-command.
2. ICS is not responsive to equipment, contract organizations and their standards. Equipment ordering may not meet ICS objectives, e.g. when to order a taskforce versus strike teams versus single resources.
3. Contractors daily shift vs. hourly rate. Contract specifications differ from fire orders. *Ex. Long days assigned to day shift contractors.* Working equipment the same as crews and overhead without regard to daily equipment maintenance needs and servicing when replacing defective parts requires extra time. Operators exceed the 2:1 work rest ratio but are expected to meet the 8 hour rest minimum.
4. Work/rest...hours of service issue is a process-for-travel challenge.
5. Present Best Value system results in smaller and older equipment showing up on fires.
6. Present HETF contracting specifications "one size fits all" vs. adapting to changes based on 2016 experience.
What is the proper mix of machines for a HETF? *Ex. Depends on task and local resources; if hotsaw vs. dangle-head is the right tool for the job.*
7. Typing is an issue because it addresses just the machine and not the operator. It also does not appear to use previous evaluations or operator skill and experience as factors.
8. HE contracts contain unfunded requirements to do fire work, i.e. updated radios.

Questions:

1. How does HE typing compare with other resource typing, i.e. faller modules or hand crews?
2. What is the true cost to contractors for preparing for fire season?
3. Is routine machine maintenance worked into, or after the expected workday?
4. How is operator skill figured into machine typing and incident ordering?

Recommendations:

1. Agency, with industry cooperation develop a HE typing method that combines equipment capabilities and operator abilities and skill level; similar to hand crew typing (Type 1 Hotshots, Type 2 agency, Type 3 least experienced).
2. HETSs should be embedded on teams.
3. Use EERA vs. Best Value for contracting local incident HE resources.
4. To retain qualified, experienced HE contractors, agency should guarantee some amount of compensation (fixed dollar amount or hours) for fire season availability preparation costs. *Ex. Similar to aviation resource contracts.*
5. Fire Team safety officers stop the long shifting of HE signed up on day-use contracts.

F. SAFETY

Issues/Problems:

1. Hand crews safety working with and around machines, including crew buggies, engines and overhead vehicles using forest roads along with HE transport vehicles and HE operations on and adjacent to access/escape routes. *Ex. Agency overhead driving on roads with active mechanized hazard tree felling operations with truck windows closed.*
2. OSHA and agency regulation violations during operations. *Ex. working in the danger zone under danger trees.*
3. Agency personnel, primarily OPS overhead and Resource Advisors, lack familiarity with HE workman compensation safety regulations.

Question:

Who in the agency is responsible for addressing the lack of escaping/entrapment procedures, or the mismatching of equipment to anticipated fire behavior, or lack of agency awareness of equipment vulnerabilities?

Recommendations:

1. Agency and industry review and develop awareness training addressing agency and OSHA regulations for forest workers.
2. HETS or knowledgeable industry personnel be assigned to incidents for advising agency Safety Officers and overhead on HE safety regulations.

G. INCIDENT COMMAND SYSTEM (ICS)

Findings:

1. Fire OH supervision often gives conflicting directions to contractors, jumping chains-of-command.
2. NRCG has a proposal to use private citizens coming in from industry to help with HE .

Issues/Problems:

1. Conflicting directions generated from multiple overhead levels leads to confusion for contractors performing he tasks. This may be based on unrealistic machine expectations, and can cause possible contract violations. *Ex. ICS states one supervisor; experience shows more than one person filling overhead positions feels they have the authority to direct equipment operators not realizing they are providing conflicting direction.*
2. Lack of IC team access to HE capabilities and limitations in planning and ordering equipment. *Ex. Many teams, especially from out-of-region do not use HETS, and are unaware of local HE resources.*
3. Team transitions and HE overhead changes often result in poor or inefficient use of HE resources, due to different levels of familiarity with machines and operators.
4. There is confusion between IC teams on the use, authority and responsibility of contracted foreman attached to HETFs.
5. Conflicts between OPS and Resource Advisors regarding suppression actions, preserving resource value, and site impacts occurring from the location of decking areas and orientation of skidded vegetation during the incident. *Ex. Orientation and location of felled trees and dozed or mulched understory vegetation.*
6. Conflicts between OPS and Resource Advisors regarding site disturbance and firefighter safety as related to reopening and construction of access routes. *Ex. Fireline location and use of one-way skidgine trail systems.*

Recommendations:

1. HETSs should be embedded on teams.
2. ICTs, especially out-of-region, solicit exit interview information from HE agency and contractors during demob or team change-out.

H. FIRE – TACTICS AND STRATEGY

Recommendation:

HE fire training needs to address HE tactics and strategies in addition to machine capabilities, limitations, logistics and site/resource impacts. To work in the woods , HE overhead and resource advisors need to train in the woods with good experienced (Type 1, operators) including simulated day and night operations.

I. MISCELLANEOUS

Finding:

Most loggers would rather log than work agency fires. (General agreement among the meeting members).

Issues/Problems:

1. Equipment costs for modern machinery keep rising.
2. Existing agency and mill logger contract obligations limit time available for fire contracting.
3. The condition and availability of contract HE is heavily dependent on rates and number of days per season on fires and/or rehab.
4. HEQB appears to be a blow-through position; not a career track.

Recommendations:

1. Agency with industry collaboration: Review and assess 2016 dispatch and inspection records for problem contractors and machines.
2. MLA assist agency to rebuild the HE fire militia; especially for HE and fireline location positions.

J. RECOMMENDATIONS – SUMMARY

TRAINING

1. Feels agency should require more HE training for fire teams.
2. HE training should be required for all incident operations overhead positions.
3. Increase HE training with assistance from industry contractors as training program advisors. *Ex. Assist with updating NWCG training course materials.*
4. Agency use industry contractors, operators as instructors in agency off-season fire training. *Ex. Assist with HEQB, TFLD-HE, line scouting, equipment inspection, plans, logistics and postfire rehab.*
5. HE overhead and resource advisors need to train in the woods with good experienced operators, including simulated day and night operations. (HE fire training needs to address HE capabilities, limitations, logistics, site/resource impacts, tactics and safety.)
6. Build a regional training cadre of industry and agency to develop and instruct an annual HE training academy.
7. Agency, with industry collaboration, provide regional orientation to outside area IC Teams to include HE dispatching, operations, and HE tactics and strategies.
8. Possible training solution is to use electronic education format. *Ex. Develop HE training materials of Northern Rockies equipment for out-of-region teams being assigned to Northern Rockies incidents.*
9. Key to education and training is increased awareness on safety issues.
10. State and Federal regulations and legislation.
11. Fire fighter behavior around equipment is fundamental to safe operations; training must emphasize when and when not to allow ground forces around working machines, why, and what to do when it is encountered.
12. HE training is needed by specific geographic area for specific jobs. *Ex. Rocky Mountains line scouting for machines.*
13. Develop and offer follow-up training opportunities, beyond HEQB training (S236). *Ex. tactics and techniques, safety issues borrowed from follow-up communications from AARs, previous workshops, accidents and lessons learned, and operator feedback. Agency and industry collaborate to develop training. Ex. Live in-woods equipment demo in 2008, University of Montana live in-woods workshops, 2011.*
14. Seasonal refresher training, RT-130, should include HE topics. Create and provide HE awareness level training for RT-130. Training topics could provide a cooperative opportunity for working with HE industry, contractors, state workmans' comp or labor board, and agency trainers – especially safety officers.
15. Need to make agency officials aware of transport rules that apply to contractors, and may conflict with fire agency expectations. Mechanized Task force with leader (contracted TFLD/side-rod foreman) is a good way to educate users (agency) on machine limits and capabilities. Include in agency training MLA MOU.
16. Industry and agency collaborate to develop and implement log book training for fire teams. *Ex. Travel time be included for both ways to/from incident be designated as "emergency".*

DOT ISSUES AND TRANSPORT

USFS and MLA work through MT governor, or Western States Governors' Council on DOT regulations related to HE use and transport traveling to/from/on wildfires. Also, areas of regulatory conflict between neighboring states related to HE transport.

DISPATCH, INSPECTIONS AND DEMOBILIZATION

1. Assign agency or contractor personnel with HE knowledge and fire experience to assist dispatch centers during busy, or anticipated busy periods.
2. Industry collaborate with agency to develop and distribute HE dispatching materials, and conduct pre-season training and post-season follow-up evaluation. *Ex. After Action Review involving contractors, OPS and dispatchers.*

COMMUNICATION - AGENCY/CONTRACTOR

MLA develop a list of question to improve communication with agency personnel, particularly mission/tactic descriptions, demobilization logistics and transport, work/rest hours ratio.

BUSINESS: CONTRACTING, EQUIPMENT TYPING

1. Agency, with industry cooperation develop a HE typing method that combines equipment capabilities and operator abilities and skill level; similar to hand crew typing (Type 1 Hotshots, Type 2 agency, Type 3 least experienced).
2. HETSs should be embedded on teams. Currently, NRCG has a proposal to use private citizens coming in from industry to help with HE fire positions.
3. Use EERA vs. Best Value for contracting local incident HE resources.
4. To retain qualified, experienced HE contractors, agency should guarantee some amount of compensation (fixed dollar amount or hours) for fire season availability preparation costs. *Ex. Similar to aviation resource contracts.*
5. Fire Team safety officers stop the long shifting of HE signed up on day-use contracts.

SAFETY

1. Agency and industry review and develop awareness training addressing agency and OSHA regulations for forest workers.
2. HETS or knowledgeable industry personnel be assigned to incidents for advising agency Safety Officers and overhead on HE safety regulations.

INCIDENT COMMAND SYSTEM (ICS)

1. HETSs should be embedded on teams.
2. ICTs, especially out-of-region, solicit exit interview information from HE agency and contractors during demob or team change-out.

FIRE TACTICS AND STRATEGY

HE fire training needs to address HE tactics and strategies in addition to machine capabilities, limitations, logistics and site/resource impacts. To work in the woods , HE overhead and resource advisors need to train in the woods with good experienced (Type 1, operators) including simulated day and night operations.

MISCELLANEOUS

HE fire training needs to address HE tactics and strategies in addition to machine capabilities, limitations, logistics and site/resource impacts. To work in the woods , HE overhead and resource advisors need to train in the woods with good experienced (Type 1, operators) including simulated day and night operations.