



**NWCG Risk Management Committee
Meeting Minutes
NIFC
October 8-9, 2019**

Meeting Attendees:

Mark Goeller	OK Forestry Services, Chair
Bodie Ronk	BLM, NIFC
Adrian Grayshield	BIA, NIFC
Kathy Komatz	NPS, NIFC
Corey Butler	NIOSH (Call In)
Chad Fisher	NPS
Steve Holdsambeck	USFS, NIFC
Tony Petrilli	USFS, NTDP
Colby Jackson	BLM, NIFC
Ted Mason	BLM, NIFC
Kaili McCray	FWS, NIFC
Tim Blake	NWCG, NIFC
Joe Domitrovich	USFS, NTDP (Call In)
Krysta Shultz	BLM, NIFC

Other Attendees:

Travis Touchette	BLM, NIFC
Dave Haston	USFS, NIFC
Matt Cnudde	USFS, NIFC

Opening/Introductions (Goeller)

- **Roll Call/Introductions**

NWCG Updates

Executive Board (Tim Blake)

- NWCG Tasking - Heavy Equipment Boss (HEQB) Span of Control Issue to address shortage of HEQB in Northern Rockies. Incident and Position Standards Committee (IPSC) has stood up a HEQB Task

Group led by Ben Oakleaf to study the issue and make recommendations. Oakleaf has reached out to RMC to provide a rep to the Task Group. JD Morris from Oklahoma Forestry Services will serve as the RMC Subject Matter Expert to the Task Group.

- Looking to go to a single source for all typing standards.
- Budget requests for projects due to the Exec Board by January 17th.
- Work Capacity Test description. There are differences in definition across several publications. 310-1, NWCG Glossary, and the Work Capacity Test Administrators Guide. Who is the steward? Which is the authoritative source? Jesse Bender and Tim Blake working on it and will take to RMC and IPSC to get it right. Joe Domitrovich: 310-1 or other Agency documents will be the authoritative source for the definition with the WCT Administrators Guide as a supplement on how to implement.
 - Joe Domitrovich – The Encyclopedia of Wildfires and Wildland Urban Interface Fires being put together by researchers. Editors of the document not allowed to quote NWCG Glossary so they had to paraphrase. Will send link to Tim. Encyclopedia would be for purchase. Not a fire lab product.

NWCG Training (Colby Jackson)

- Smoke Committee (SmoC) intends to produce a video that touches on positions stewarded by RMC. Colby sent a draft plan to Pete Lahm (SmoC Chair) on how to move forward on connecting available information and ensuring RMC concurrence on what the video tells Safety Officers and MEDLs to do regarding smoke.
- SMEs have compiled a list of Safety Officer activities. These will be used to write an Incident Position Description (IPD) for each of the three Safety Officer positions. Review the draft in November and ready for RMC review by December.
- S420 – Currently have a draft course revision almost finalized.
- National Wildland Fire Training website will be going away by the end of year. Currently unable to be supported because website architecture is outdated. Currently looking at the Wildland Fire Learning Portal as a place to fill the gap.
- Each of the completed IPDs (approx. 40 as of now) have a section on Managing Risk. RMC may consider reviewing this section, as it defines how responders are asked to manage risk in various roles. Could be a good place to initiate process to make desired changes, for example FFT2, control bleeding – to add an element of first-aid.

NTDP Update (Domitrovich and Petrilli)

- Fitness – Kelly Kane (USFS) has been running point coordinating efforts on Wildland Firefighter Health and Safety. “The Black” web-based fitness program is part of this effort. Working on how to move into the future as one cohesive unit using education and training of people instead of standards.

- Physiology/Nutrition – Primary effort is the heat stress project. Data has been collected and doing a write up of results. Research on crews studied shows a spike in body temperature on initial hike in the morning. This results in a resetting of the core temp for the day. Point of emphasis is how to best access work location in the morning. Emphasis in the study literature will be how the hike to the day's work location is the biggest contributor to heat strain later in the work shift. Also looking at PPE and how it affects core body temperature. Research also shows that higher levels of aerobic fitness is important to minimizing heat stress.
- Over 50% of the time, firefighters are exerting themselves at a higher level than what's required to pass the Work Capacity Test. Research will be reviewed again to confirm results.
- Key Points:
 - Tasks involving a high-level of physical activity tasks critical to increase in core temp
 - Initial hike is "Resetting" core temp for the shift
 - Hydration is important, but not magic bullet to reduce or eliminate heat stress injury/illness
 - PPE creates a micro-climate – more work needed on appropriate levels of thermal protection
 - Overall fitness is a main defense against heat stress injury/illness
 - The Heat Stress Study revealed that many crew members were carrying packs and equipment with a combined weight between 50-60 pounds with Sawyers carrying more. Managing pack equipment and weight may be another way to minimize the spike in core body temperature during the morning hike and throughout the day.
 - Researching the best way to distribute this information (e.g. LLC, RT-130 Video). Looking for guidance.
- NFPA 1977 – Proposal by the NFPA 1977 Committee to raise the minimum PPE Total Heat Loss (THL) rating to 550 which would eliminate Kevlar pants for wear. NFPA 1977 Committee Meeting in November will discuss the issue. RMC opposes this move based on the need for these type of pants in certain Geographic Regions and time of year. Letters of opposition may be needed from the RMC, Agencies, and/or individuals should the NFPA Committee move forward with the recommendation,.
- Critical Training Study – Did a pilot study w/a crew last year following them for the critical period. Data is currently under analysis. a) Smoke (respirators) – battery powered respirators, in production, would be tested heavily; b) Field Electrolyte – finished data this year, to see if any sort of supplements are needed and at what levels; c) Fatigue – a study will be started next year looking at the cumulative effects of fatigue; and d) Large fire food contract – new contract out for bid next year.
- Wildland Firefighting Helmet – Godot Apuzzo is project leader. Reviewing the current helmet and its requirements. Also, studying the different helmets available and at alternative electrical tests

that may allow a vented helmet. Risk assessment and trade-off analysis results will be available at the end of the study.

- Aerial Ignition – Shawn Steber – Sling Dragon (slung plastic sphere dispenser) aerial ignition device is moving through the approval process. Sling Dragon reduces exposure by reducing the personnel numbers in the helicopter. IHOPS reviewed the approval and is providing comments while moving it forward to NIAC. Planning an accuracy study for the traditional plastic sphere dispensing machine to see if the plastic spheres can be accurately placed while flying at higher altitudes than where the mission is normally accomplished. The data will feed into a larger project proposal that will look to address actionable technology and helicopter flight operations profile items identified during the ‘Low/Slow’ summit held by the USFS.
- UAS – Ashton Ferruzzi – List of wildfire operational use where UAS utilization by T&D has managed risk, reduced exposure and assisted personnel in making more informed decisions.
- Shirts – High-visibility PPE article on LLC’s blog. Retroreflective striping has been added to the newest USFS-spec fire shirt design. Depending on stocking levels, this new revision of shirts will arrive in orders within a year or two.
- Pants – Received approximately 1,000 responses to the survey. Will be making a prototype pant for testing. Including things like: gusseted crotch, cell phone pocket, etc. Small tweaks to current design. Exploring more with female pant sizing.
- Interagency Standards for Fire and Fire Aviation Operations (aka “Red Book”) – Ensure any PPE changes are thoroughly vetted. Any PPE edits should go through their regular agency channels.

Fire Shelter and PPE Subcommittee Update (Petrilli & Mason)

- Fire Shelter Subcommittee is now known as the Fire Shelter and PPE Subcommittee.
- Fire Shelter Subcommittee had questions about firefighter clothing. Had great success using the subcommittee to survey end users. Would like to expand the survey to PPE. Committee is there to oversee collaboration with Tony Petrilli with interagency products.
- Conference call next week to start picking up work on the PPE project. Will pick up the projects with pants. Will be populating the website with more PPE information.
- Looking at updating the fire shelter WFSTAR video and booklet in FY 2021.

Equipment Technology Committee Update (Dave Haston & Matt Cnudde)

- Medical Kits – Effective for the 2019 field season, discontinued the 500 person kit and reconfigured the 100 person kit to be the incident support medical kit. Does not come back to the cache for refurbishment. Have had three recalls on components of multiple cache medical kits (Quality Assurance and expiration issues). Considering making kits available on a 1-2 day turn-

around from contractor vs having larger number of kits in stock at the caches. Northern Rockies received positive feedback on the new kit.

- Defense Logistics Agency (DLA) – At the request of the ETC, DLA has discontinued the metal medical box which can be hung on a wall but is mainly used in buildings and vehicles. Concern is high for expiration dates of items in all medical kits. Will be discussing at ETC meetings throughout the fall. Overall objective is to revamp the entire suite of medical kits.
- ETC considering an update of the personal first-aid kit in the future. ETC is asking for recommendations on kit contents and packaging. First aid training and level of care related to firefighting operations should drive the contents of all medical kits.
- FAST Kit – Trying to implement a component or sub-kit at a time (TRS, Bag, and Trauma Kit) due to the large undertaking to get into the cache system. Current trauma kit in the cache is outdated. Huge lift to do the FAST kit for the cache system. IEMS says there is good consensus among Bureaus/USFS programs to agree on the components of the FAST kit. EMT's and Medical Units are the intended users. This would benefit and be a supplement to the federal programs (EMT's). These would be ordered for incidents and then sent back to the cache for refurbishment. Not intended to be kept by individuals or receiving units (consistent with all cache equipment and supplies). People are currently purchasing them outside of the cache system. Value in discussing a common source for getting the equipment. Look to standardize the FAST kit items in the future. Anything that requires implementation in 2020, decisions need to be made now. IEMS will be reengaging with the programs to get items updated, go back to the agencies to ensure consistency where applicable, and gain consensus. Need to replace cache trauma kits – next logical step.
- Chainsaw Fuel Geysering – Stihl has updated their instructions and is consistent with previous Equipment Bulletins and 6MFS. NTDP completed field testing of new refueling system not nearly the hours and fuels cycles they wanted due to fire season (**UPDATE: As of 10/28/19, the goal of 15,000 hours has been met. This equates to approximately 30,000 fueling cycles**). USFS is looking at a decision in Jan 2020. May not be enough time to implement in 2020 fire season w/a January decision. Approved 6MFS regarding new Stihl manual.
- Dolmars – Plastic dolmars are no longer going to be manufactured. One option is changing to a Sigg bottle-type system. Eventually will not be able to purchase plastic dolmars in the U.S. at all (long term). A manufacturer has developed a metal, split fuel can which will be provided to NTDP for evaluation.
- Safety Cans/Fuel Cans – Took the Wavian NATO Fuel Can out of the cache due to fuel geysering issues. Company that makes the current safety can has not been able to catch up with production. Screw-in spout was authorized in order to improve production rates. Currently don't have a Gerry can in the system, other than for portable pumps. San Dimas trying to find a contractor to test cans that don't geysers. Looking to potentially go back to the Sceptor can.
- NFES – Group received a request this fire season to stock specialty flagging in the cache for Bees/Yellow Jackets/etc. Would have to follow format of a hazard (yellow, black stripe w/"Bees" written on it). Looking to RMC for input. Request came from an ENGB. Point that you can see it from a distance and immediately know that you have a Bee hazard. Implementation – flagging is

a DLA supported item. Would this be a cache item or just a DLA item? Or both? Bring the question up during the hotshot committee meeting and potentially survey the field on what they think.

- Decision – memo from RMC to ETC to move forward with the new trauma kit. Kaili will follow up with group, draft memo, and move it forward to RMC. Also, memo on 1st aid kit.
- RMC to have joint meeting with ETC in the spring. Location to be determined.

NIOSH (Corey Butler)

- Wildland Firefighter Exposure Study – Three-year study tracking the health and bio-markers of six crews pre-season and post-season. Getting 5,000 data points interacting w/the crews. Just finished up post-season Year Two on Saturday October 5th. Year Three will be analyzing and publishing the data. Would like to revise the study protocol to add test for the marker of Rhabdo (ck test). Need to send to the IRB for approval in adding this. Saw some critical test results (elevated carbon dioxide) and had to notify the employee. Notification to employee follows a script and it is then up to the employee to take next steps. Normal CK Levels are 190-300 international units per litre in males (slightly lower for females). 5x the upper limit of the level was the point of notification. Levels for call back is 5,000 per litre. Reason for choosing this is that acute kidney damage is occurs at this level. Trying to determine if there has been testing on other athletes for ck level's that are comparable? If yes, normal for them might be up in 1,000+ range with no symptoms. Looked at post-season Year Two data and asked individuals "have you been diagnosed by a physician with rhabdo?" Four of the 103 said yes since the beginning of the 2019 Season. No issue from RMC to add the CK issues into the test. Looking to publish data. Would like to present to RMC at their winter meeting. Other changes to protocol: Measure CO2 in the field (yes), add another round of spirometry (lung function test) on day 3 instead of just on day 1 (yes). Next steps – send results to participants. If the study wants to be expanded and/or continued in 2022, need those proposals done by January 2020. Long-term data could be beneficial if members of the crews stays stable for 5yrs and/or longer. Could look at epigenetic markers (cancer). Have a baseline blood bank would just need additional consent to get that data. Would need buy-in from the crews. Consider what's being done w/a fatigue study and coordinate with Joe Domitrovich to incorporate. Working on an MOU with DOI and USFS, to carry an iPad w/ArcGIS software to track what they do.
- NIOSH Cancer Registry – Wildland Firefighters are included in this. Still under development. Will let the group know when it goes live and when people can enter information. Approx. 2 yrs out for full implementation.
- CA Firefighter Study – In FY2020, doing a similar study with FF in CA. Kenny Fent and others with NIOSH in conjunction with Univ of FL following structural firefighters in CA whose has WUI responsibilities attached to their duties. One year study focused on cancer. Brief RMC on results.

- Structural FF Cancer Study – cohort study that structural ff's at risk for more cancers than others. Interest in having NIOSH present on this to RMC. Coordinate w/Kathy for spring presentation if interested.
- PPE – NIOSH tested dirty PPE for toxins in the clothing then tested various types of laundering equipment (e.g. home vs. structural high speed), neither here nor there in comparison. This coming summer collected more to test. Shipping them out next week for similar testing. Next steps would be to see if those toxins are being absorbed, etc.
- CA Air Quality – Pete Lahm presenting an overview on Cal worker protection regulations next Tuesday at 1300 Mountain Time. Cory to send info to RMC.
- Valley Fever & Odd Diseases – Should NIOSH be involved in these illnesses and forward info on to the Centers for Disease Control? Should fact sheets be put together for awareness? Would a 6MFS be enough? Or, a document that gives a little more in depth information based on areas where some of these diseases occur. When is/isn't it needed? How prevalent are the diseases? Use materials that are currently available and send those to an area where these diseases are a problem. Respond on a case by case basis. Will send out information on Valley Fever to the RMC.
- Healthy Work Design – Starting to work with the public safety sector where the Wildland Firefighters fall. Susanne Marsh to look at national violent death registry by death by occupation. Coded on industry codes and currently don't have WFF code. Looking at getting a grasp of suicide and other violent deaths. Working with Miranda Stuart.

Incident Emergency Medical Subcommittee (IEMS) Update (McCray)

- 206 Medical Incident Report (MIR) – Discussion revolved around 'who owns it', how is information being captured, and how is it updated. NIMSIC is the steward of the document but IEMS is the SME to make the recommended changes to the document. Use the IRPG schedule for routine updates. Caution – this form is not an ICS form but there is confusion because it is a part of the ICS 206WF. Coordination is critical to ensure the form is updated. NIMS is only administrative control, IEMS has content control. Tim Blake is the link between IEMS and NIMSIC. Will be looking to begin the review process within the next year to align with the IRPG.
- Rapid Extraction Modules (REMS) – OTC/IPSC had a plan to pull together an SME group to look at REMS since currently there is no standard. OTC/IPSC has no plans to develop a standard for REMS. This particular position crosses multiple committees. Firescope currently has a document that could be used as a starting point. RMC is the logical place to take the lead on drafting a task book then take to OTC/IPSC for finalization. Currently no federal resources that have REMS, only Fire Departments and contractors. Integrate with Firescope to understand what work has been done, vision for the future, etc. Currently unsure what you'll get when you place an order for a REMS on an incident as they currently arrive in a variety of configurations. Ultimately, where would the standard for REMS live? Add to program of work for 2020.

- Finally have IEMS group membership up to par. Allows IEMS to be much more effective and interactive. Poised the group to have a mission/vision discussion on whether it needs to change as it has historically just supported Medical Units. Face-to-face meeting in December, the 10th-12th. Will be reviewing burn protocols, discussing standardized level of first-aid training for FFT2's to supplement EMS, among other topics. Tweaking the agenda over the next month, will send to RMC members when finalized. RMC to have a liaison on the IEMS. Ideas – look to standardize medical training at a certain level (e.g. FFT1). Going through NWCG to get more support for the medical/first-aid training. Finalizing the MEDL position description to route for review/approvals. Replica is in 19 states currently. Intent of F2F meeting, mission/vision, strategic planning, and succession of the committee (e.g. chair position).

Mental Health Subcommittee (MHSC) Update (Fisher for Stuart)

- MHSC website is live, populated with articles and hot topics. Miranda attending stress and first-aid train-the-trainer course in Tucson later this month to assess applicability for fire. Hot Topic that went out Sept 23rd addressed the end of the season. Went out via Subcommittee members throughout each agency.
- Suicide prevention week went well overall. Agencies sent messages daily. Next year work together to send a consistent message. This year not able to meet the timeframe.
- Growing pains with the Subcommittee. Took the Subcommittee members phone numbers off the NWCG website for now. Need to tread lightly with what the Subcommittee regarding information that is posted, etc... Figuring out how to manage the needs in the new area. Solid plan in place with moving forward. Appreciate the Executive Board and RMC support.
- Need to inventory what all agencies are doing in regards to mental health support. The Subcommittee is still undergoing their building phases in terms of standards and what can/cannot be done. Blazing a trail and no matter what, people will seek you out. Need solid, professional resources to point individuals to in order to get help. Need to be prepared to answer questions and steer people in the correct direction. Part of the development of the Subcommittee is knowing those resources. Stay within the sideboards of the Subcommittee mission and be familiar with agency and interagency resources available.
- The Subcommittee is seeing that firefighters aren't afraid to talk about their feelings anymore. Things are becoming more acceptable to discuss. Often toward the end of staff rides, there is a reflective moment and opportunities to discuss. Mental Health and Risk Management side is coming out more and it is okay to discuss. Opportunities for WFSTAR modules, as they often get requests to produce videos on topics associated with Mental Health.
- From an NWCG perspective, Executive Board wants to support the Subcommittee in every way but not sure how that is done at this point in time. Tie back to IPD's as an anchor to MHSC and a way forward (e.g. FFT2). Ensure the Executive Board is informed on what is going on. Want the Subcommittee to focus on prevention and awareness, mental resilience and wellness ahead of

time. Don't write any standards. Idea to incorporate mental health issues in S-130. Executive Board needs to know the demand is driven from the field and is needed.

Hazard Tree Subcommittee Update (Fisher for McFarland)

- Strawberry Fire WFSTAR video will be reviewed by the Subcommittee in early November and any adjustments forwarded to Travis Touchette by November 8th. HTSC will work with Travis to help get the product out for the CY2020 refresher season.
- Chad Fisher has been working with Mack McFarland and the NWCG Executive Board on the four actions out of the Ferguson Fire Corrective Action Plan. Want to emphasize human factors in the saw training and will recommend development of an advanced feller type course giving an experienced sawyer to learn new techniques and risk assessments. Initial recommendations included the following: a) Amend current S-212 to incorporate the introduction of human factors discussions and a consistent complexity analysis specific to chainsaw operations, b) Develop evaluable tasks within fireline leadership task books to specifically call out hazards associated with trees and/or felling operations on incidents, c) Develop an advanced felling curriculum, d) Revise taskbooks (and other direction) to incorporate new complexity analysis and human factors terminology, and e) Address disconnect between USFS, DOI, and State agencies' methodologies in certification to ensure consistency in how sawyers move from lower to higher chainsaw certifications.
- Presented to the Executive Board in September the above information. Not sure if it is possible to incorporate the DOI and USFS into one standard. Have not heard back from Shawna Legarza yet but the HTSC is right on track with recommendations.
- Subcommittee meets week of Nov 4th in Boise.
- Reviewed the Hazard Tree Subcommittee WFSTAR video that is currently in draft. Any comments send to Travis Touchette and cc: Mack McFarland.

6 Minutes for Safety (6MFS) Update (Komatz)

- June-Aug 2019 there were over 100,000 visits to 6MFS. 60% of those visits were from desktop computers vs. last year on mobile devices. Number of visits in the "off season" is going up. Recent visit to Rocky Mtn NP and was able to sit in a morning briefing w/6MFS. They had expanded upon the 6MFS morning briefing and was able to AAR with them regarding those. Feedback included: Keep 6MFS topics to one page, keep relevant to apply right then, and include discussion questions.
- Going through each 6MFS topics to update and validate the information to ensure the topics are targeting our audience as best as possible. Will be putting in front of SME's and ultimately in front of the RMC to have the discussion to make them better. There are approximately 60 old 6MFS.

Bin Items (All)

- Wildland Fire Chaplain E-mail from Pastor Tom, trained WF Chaplain - Asked to create a policy for WF Chaplains at the National Level. Service that could be made available under the HR Section. Have MHSC reach back out to the individual and inquire what they have to offer and how they envision it working.
- Firefighter Suicide Research E-mail – Sent to Miranda.
- Redbook Revision – Reviewed proposed edits from Steve and provided group comment.
- KNG Radio Issues – Radio channels ended up changing from what it was put on. Worked with National Interagency Incident Communication Division and KNG with no resolution.
- Mark Goeller to remain as Chair for the next year. Re-evaluate at the next fall meeting. Have asked Dan Smith to actively find a Western States rep.
- USFS Risk Management Website – They have found the website is being used heavily. Will be revamping it over the winter to include more risk topics and training.
- HEQB Tasking – Tasking is out, RMC has representation. Await their response.

Strategic Planning for the Next Year (All)

- REMS Issue – Options include: An Executive Board tasking to the appropriate group to develop standards. RMC ask IEMS to draft their idea of a REMS position and then bring to RMC, take to IPSC, and then reach out to the applicable groups. Figure out the desired end state. Chad will follow up with NICC to find out how many “rapid extraction modules” have been ordered. Will also connect with Firescope. Connect back with Kaili and IEMS. Then move forward from there.
- Joint Meeting with ETC – Coordinate with Dave Haston at their fall meeting to discuss options for a joint meeting in the Spring. Locations and field trip ideas TBD.
- Standardized First-Aid Care for Line Personnel
- Pack Weight Reduction – Need to look at ways to modify and set a standard that will help reduce the weight firefighters are carrying (e.g. prepositioning items). Consider educating firefighters and IMTs on the effect of performance based on weight carried utilizing Dr. Joe’s research. Identify where to effect change, such as: ACIC Group, Team Meetings, IHC Sup Meetings, Operations and Logistics.
- Finish Agency Administrator (AA) Guide – Vet draft around RMC again for edit prior to sending to NWCG for publication.
- Tap into NIOSH/CDC for Product Support
- Review all IPDs and how Risk Management fits into everything.

*****Next Conference Call -Nov 14, 2019*****