



NATIONAL WILDFIRE COORDINATING GROUP

NWCG Memorandum No. 14-019

Date: 2 December 2014

TO: NWCG Member Agencies

FROM: Dan Smith, Chair, NWCG Executive Board

A handwritten signature in black ink that reads "Dan Smith".

SUBJECT: Revision of the Wildland Fire Risk and Complexity Assessment (RCA)

The Wildfire Risk and Complexity Assessment (RCA) was adopted by the National Wildfire Coordinating Group on December 17, 2013 as a replacement for the Complexity Analysis and the Organizational Needs Assessment.

During the 2014 wildfire season, field personnel recommended revisions to the RCA. The NWCG Operations and Workforce Development Committee (OWDC) assessed these recommendations and revised the RCA accordingly. Revisions include:

- Clarification of existing text in some elements to reduce redundancy and simplify instructions;
- Addition of text in the element ratings (i.e. Low, Moderate, and High columns) to clarify rating criteria;
- Replacement of the "N/A" element ratings with "Very Low"; and
- Clarification of existing text in the "Indicators of Incident Complexity" portion of the RCA to address number of firefighters instead of number of resources assigned at the type 5 level, and use of Command and General Staff at the type 4 and type 3 levels.

The revised RCA is posted at: <http://www.nwcg.gov/>. Field personnel should discontinue use of the previous version.

The complete RCA is located in the *Wildland Fire Incident Management Field Guide (PMS 210)*.

An excerpt from the RCA, "Indicators of Incident Complexity," is included in the *Incident Response Pocket Guide (PMS 461)* and the *Incident Commander's Organizer (PMS 206)*.

These documents will be updated during their normal revision cycles.

Attachment: Wildland Fire Risk and Complexity Assessment

Wildland Fire Risk and Complexity Assessment

The Wildland Fire Risk and Complexity Assessment should be used to evaluate firefighter safety issues, assess risk, and identify the appropriate incident management organization. Determining incident complexity is a subjective process based on examining a combination of indicators or factors. An incident's complexity can change over time; incident managers should periodically re-evaluate incident complexity to ensure that the incident is managed properly with the right resources.

Instructions:

Incident Commanders should complete Part A and Part B and relay this information to the Agency Administrator. If the fire exceeds initial attack or will be managed to accomplish resource management objectives, Incident Commanders should also complete Part C and provide the information to the Agency Administrator.

Part A: Firefighter Safety Assessment

Evaluate the following items, mitigate as necessary, and note any concerns, mitigations, or other information.

Evaluate these items	Concerns, mitigations, notes
LCES	
Fire Orders and Watch Out Situations	
Multiple operational periods have occurred without achieving initial objectives	
Incident personnel are overextended mentally and/or physically and are affected by cumulative fatigue.	
Communication is ineffective with tactical resources and/or dispatch.	
Operations are at the limit of span of control.	
Aviation operations are complex and/or aviation oversight is lacking.	
Logistical support for the incident is inadequate or difficult.	

Part B: Relative Risk Assessment

Values				Notes/Mitigation
<p><u>B1. Infrastructure/Natural/Cultural Concerns</u> Based on the number and kinds of values to be protected, and the difficulty to protect them, rank this element low, moderate, or high. Considerations: key resources potentially affected by the fire such as urban interface, structures, critical municipal watershed, commercial timber, developments, recreational facilities, power/pipelines, communication sites, highways, potential for evacuation, unique natural resources, designated areas (i.e. wilderness), T&E species habitat, and cultural sites.</p>	L	M	H	
<p><u>B2. Proximity and Threat of Fire to Values</u> Evaluate the potential threat to values based on their proximity to the fire, and rank this element low, moderate, or high.</p>	L Far	M	H Near	
<p><u>B3. Social/Economic Concerns</u> Evaluate the potential impacts of the fire to social and/or economic concerns, and rank this element low, moderate, or high. Considerations: impacts to social or economic concerns of an individual, business, community or other stakeholder; degree of support for the wildland fire program and resulting fire effects; other fire management jurisdictions; tribal subsistence or gathering of natural resources; air quality regulatory requirements; public tolerance of smoke, including health impacts; potential for evacuation and ingress/egress routes; and restrictions and/or closures in effect or being considered.</p>	L	M	H	
Hazards				Notes/Mitigation
<p><u>B4. Fuel Conditions</u> Consider fuel conditions ahead of the fire and rank this element low, moderate, or high. Evaluate fuel conditions that exhibit high ROS and intensity for your area, such as those caused by invasive species or insect/disease outbreaks; and/or continuity of fuels.</p>	L	M	H	
<p><u>B5. Fire Behavior</u> Evaluate the current and expected fire behavior and rank this element low, moderate, or high. Considerations: intensity; rates of spread; crowning; profuse or long-range spotting.</p>	L	M	H	
<p><u>B6. Potential Fire Growth</u> Evaluate the potential fire growth, and rank this element low, moderate, or high. Considerations: Considerations would include current and expected fire growth based on fire behavior analysis and the weather forecast and/or the ability to control the fire.</p>	L	M	H	
Probability				Notes/Mitigation
<p><u>B7. Time of Season</u> Evaluate the potential for a long-duration fire and rank this element low, moderate, or high. Considerations: time remaining until a season ending event.</p>	L Late	M Mid	H Early	
<p><u>B8. Barriers to Fire Spread</u> Evaluate the barriers to fire spread and their potential to limit fire growth, and rank this element low, moderate, or high. Considerations: If many natural and/or human-made barriers are present, rank this element low. If some barriers are present, rank this element moderate. If no barriers are present, rank this element high.</p>	L Many	M	H Few	
<p><u>B9. Seasonal Severity</u> Evaluate fire danger indices and rank this element low/moderate, high, or very high/extreme. Considerations: Fire danger indices such as energy release component (ERC); drought status; live and dead fuel moistures; fire danger indices; adjective fire danger rating; geographic area preparedness level.</p>	L/M	H	VH/ E	
Enter the number of items circled for each column.				

Relative Risk Rating (circle one):

Low	Majority of items are "Low", with a few items rated as "Moderate" and/or "High".
Moderate	Majority of items are "Moderate", with a few items rated as "Low" and/or "High".
High	Majority of items are "High"; A few items may be rated as "Low" or "Moderate".

Part C: Organization

Relative Risk Rating (From Part B)								
Circle the Relative Risk Rating (from Part B).						L	M	H
Implementation Difficulty								Notes/Mitigation
<u>C1. Potential Fire Duration</u> Evaluate the estimated length of time that the fire may continue to burn if no action is taken and amount of season remaining. Rank this element low, moderate, or high. Note: This will vary by geographic area.					N/A Very Short	L Short	M	H Long
<u>C2. Incident Strategies (Course of Action)</u> Evaluate the level of firefighter and aviation exposure required to successfully meet the current strategy and implement the course of action. Rank this element as very low, low, moderate, or high. Consider the likelihood that those resources will be effective; exposure of firefighters; reliance on aircraft to accomplish objectives; and whether there are clearly defined trigger points.					Very Low	L	M	H
<u>C3. Functional Concerns</u> Evaluate the need to increase organizational structure to adequately and safely manage the incident, and rank this element very low (minimal resources committed), low (adequate), moderate (some additional support needed), or high (current capability inadequate). Considerations: Incident management functions (logistics, finance, operations, information, planning, safety, and/or specialized personnel/equipment) are inadequate and needed; availability of resources; access to EMS support; heavy commitment of local resources to logistical support; ability of local businesses to sustain logistical support; substantial air operation which is not properly staffed; worked multiple operational periods without achieving initial objectives; incident personnel overextended mentally and/or physically; Incident Action Plans, briefings, etc. missing or incomplete; performance of firefighting resources affected by cumulative fatigue; and ineffective communications.					Very Low	L	M	H
Socio/Political Concerns								Notes/Mitigation
<u>C4. Objective Concerns</u> Evaluate the complexity of the incident objectives and rank this element very low, low, moderate, or high. Considerations: clarity; ability of current organization to accomplish; disagreement among cooperators; tactical/operational restrictions; complex objectives involving multiple focuses; objectives influenced by serious accidents or fatalities.					Very Low	L	M	H
<u>C5. External Influences</u> Evaluate the effect external influences will have on how the fire is managed and rank this element very low, low, moderate, or high. Considerations: limited local resources available for initial attack; increasing media involvement, social/print/television media interest; controversial fire policy; threat to safety of visitors from fire and related operations; restrictions and/or closures in effect or being considered; pre-existing controversies/ relationships; smoke management problems; sensitive political concerns/interests.					Very Low	L	M	H
<u>C6. Ownership Concerns</u> Evaluate the effect ownership/jurisdiction will have on how the fire is managed and rank this element very low, low, moderate, or high. Considerations: disagreements over policy, responsibility, and/or management response; fire burning or threatening more than one jurisdiction; potential for unified command; different or conflicting management objectives; potential for claims (damages); disputes over suppression responsibility.					Very Low	L	M	H
Enter the number of items circled for each column.								

Part C: Organization (continued)

Recommended Organization (circle one):

Type 5	Majority of items rated as "Very Low"; a few items may be rated in other categories.
Type 4	Majority of items rated as "Low", with some items rated as "Very Low", and a few items rated as "Moderate" or "High".
Type 3	Majority of items rated as "Moderate", with a few items rated in other categories.
Type 2	Majority of items rated as "Moderate", with a few items rated as "High".
Type 1	Majority of items rated as "High"; a few items may be rated in other categories.

Rationale:

Use this section to document the incident management organization for the fire. If the incident management organization is different than the Wildland Fire Risk and Complexity Assessment recommends, document why an alternative organization was selected. Use the "Notes/Mitigation" column to address mitigation actions for a specific element, and include these mitigations in the rationale.

Name of Incident: _____ Unit(s): _____

Date/Time: _____ Signature of Preparer: _____

Indicators of Incident Complexity

Common indicators may include the area (location) involved; threat to life, environment and property; political sensitivity, organizational complexity, jurisdictional boundaries, values at risk, and weather. Most indicators are common to all incidents, but some may be unique to a particular type of incident. The following are common contributing indicators for each of the five complexity types.

TYPE 5 INCIDENT COMPLEXITY INDICATORS

General Indicators	Span of Control Indicators
<ul style="list-style-type: none"> • Incident is typically terminated or concluded (objective met) within a short time once resources arrive on scene • For incidents managed for resource objectives, minimal staffing/oversight is required • Resources vary from two to six firefighters • Formal Incident Planning Process not needed • Written Incident Action Plan (IAP) not needed • Minimal effects to population immediately surrounding the incident • Critical Infrastructure, or Key Resources, not adversely affected 	<ul style="list-style-type: none"> • Incident Commander (IC) position filled • Single resources are directly supervised by the IC • Command Staff or General Staff positions not needed to reduce workload or span of control

TYPE 4 INCIDENT COMPLEXITY INDICATORS

General Indicators	Span of Control Indicators
<ul style="list-style-type: none"> • Incident objectives are typically met within one operational period once resources arrive on scene, but resources may remain on scene for multiple operational periods • Multiple resources may be needed • Resources may require limited logistical support • Formal Incident Planning Process not needed • Written Incident Action Plan (IAP) not needed • Limited effects to population surrounding incident • Critical Infrastructure or Key Resources may be adversely affected, but mitigation measures are uncomplicated and can be implemented within one Operational Period • Elected and appointed governing officials, stakeholder groups, and political organizations require little or no interaction 	<ul style="list-style-type: none"> • IC role filled • Resources either directly supervised by the IC or supervised through an ICS Leader position • Task Forces or Strike Teams may be used to reduce span of control to an acceptable level • Command Staff positions normally not filled to reduce workload or span of control • General Staff position(s) normally not filled to reduce workload or span of control

TYPE 3 INCIDENT COMPLEXITY INDICATORS

General Indicators	Span of Control Indicators
<ul style="list-style-type: none"> • Incident typically extends into multiple operational periods • Incident objectives usually not met within the first or second operational period • Resources may need to remain at scene for multiple operational periods, requiring logistical support • Numerous kinds and types of resources may be required • Formal Incident Planning Process is initiated and followed • Written Incident Action Plan (IAP) needed for each Operational Period • Responders may range up to 200 total personnel • Incident may require an Incident Base to provide support • Population surrounding incident affected • Critical Infrastructure or Key Resources may be adversely affected and actions to mitigate effects may extend into multiple Operational Periods • Elected and appointed governing officials, stakeholder groups, and political organizations require some level of interaction 	<ul style="list-style-type: none"> • IC role filled • Numerous resources supervised indirectly through the establishment and expansion of the Operations Section and its subordinate positions • Division Supervisors, Group Supervisors, Task Forces, and Strike Teams used to reduce span of control to an acceptable level • Command Staff positions may be filled to reduce workload or span of control • General Staff position(s) may be filled to reduce workload or span of control • ICS functional units may need to be filled to reduce workload

TYPE 2 INCIDENT COMPLEXITY INDICATORS

General Indicators	Span of Control Indicators
<ul style="list-style-type: none"> • Incident displays moderate resistance to stabilization or mitigation and will extend into multiple operational periods covering several days • Incident objectives usually not met within the first several Operational Periods • Resources may need to remain at scene for up to 7 days and require complete logistical support • Numerous kinds and types of resources may be required including many that will trigger a formal demobilization process • Formal Incident Planning Process is initiated and followed • Written Incident Action Plan (IAP) needed for each Operational Period • Responders may range from 200 to 500 total • Incident requires an Incident Base and several other ICS facilities to provide support • Population surrounding general incident area affected • Critical Infrastructure or Key Resources may be adversely affected, or possibly destroyed, and actions to mitigate effects may extend into multiple Operational Periods and require considerable coordination • Elected and appointed governing officials, stakeholder groups, and political organizations require a moderate level of interaction 	<ul style="list-style-type: none"> • IC role filled • Large numbers of resources supervised indirectly through the expansion of the Operations Section and its subordinate positions • Branch Director position(s) may be filled for organizational or span of control purposes • Division Supervisors, Group Supervisors, Task Forces, and Strike Teams used to reduce span of control • All Command Staff positions filled • All General Staff positions filled • Most ICS functional units filled to reduce workload

TYPE 1 INCIDENT COMPLEXITY INDICATORS

General Indicators	Span of Control Indicators
<ul style="list-style-type: none"> • Incident displays high resistance to stabilization or mitigation and will extend into numerous operational periods covering several days to several weeks • Incident objectives usually not met within the first several Operational Periods • Resources may need to remain at scene for up to 14 days, require complete logistical support, and several possible personnel replacements • Numerous kinds and types of resources may be required, including many that will trigger a formal demobilization process • DOD assets, or other nontraditional agencies, may be involved in the response, requiring close coordination and support • Complex aviation operations involving multiple aircraft may be involved • Formal Incident Planning Process is initiated and followed. • Written Incident Action Plan (IAP) needed for each Operational Period • Responders may range from 500 to several thousand total • Incident requires an Incident Base and numerous other ICS facilities to provide support • Population surrounding the region or state where the incident occurred is affected • Numerous Critical Infrastructure or Key Resources adversely affected or destroyed. Actions to mitigate effects will extend into multiple Operational Periods spanning days or weeks and require long-term planning and considerable coordination • Elected and appointed governing officials, stakeholder groups, and political organizations require a high level of interaction 	<ul style="list-style-type: none"> • IC role filled • Large numbers of resources supervised indirectly through the expansion of the Operations Section and its subordinate positions • Branch Director Position(s) may be filled for organizational or span of control purposes • Division Supervisors, Group Supervisors, Task Forces, and Strike Teams used to reduce span of control • All Command Staff positions filled and many include assistants • All General Staff positions filled and many include deputy positions • Most or all ICS functional units filled to reduce workload