

Snake Management and Relocation Training

By

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Response Reality

- Responders have been asked to rescue animals throughout history.



Cats in Trees



Dogs in Trees



Dogs and Puppies from Under Trailers



Relocation of Snakes



Conditions

- Biologists not available to timely relocate snakes allowing people to get to work when a snake was present
- Standard Operating Procedures and/or inadequate lesson plans available for training for Emergency Operations First Responders
- Lack of adequate equipment to do the job
(No Work Planning and Controls)

The Fix

- KEY – Conduct Job Safety Analysis (JSA) for Work Planning and Control (safety)
- Development of Standard Operating Procedures to safely relocate snakes
- Development of Lesson Plans for SNL
 - To safely implement procedure (skill of the worker)
- Purchase training and first responder Equipment
- Conduct Training

Why WP&C

The Hazards

- There are non-venomous snakes as well as venomous snakes at both locations (SNL and TTR).
- We could be responding to either type of snake.
- The main hazard is being bitten or a member of the public being bitten by a snake that is venomous.
- Each site has their own hazards

The Negative Results

- Someone that is bitten with a result of severe injury or as a fatality.
 - Either a member of the public or workforce
 - Responder that improperly tries to remove the snake
 - Negative Publicity, investigations, etc.
- Time factors affecting the rescue of the person bit

Four Species of Venomous Snakes (Rattlesnakes) in NM

Prairie



Western Diamondback



Black-tailed



Massasauga



Four Species of Venomous Snakes (Rattlesnakes) in Nevada

Great Basin



Panamint



Mojave Sidewinder



Mojave Green



Example of Snake Bite

Robert W. Elliott, Emergency Services Manager, Tonopah Test Range, tells the following story about a boy that was bitten:

- Just after my 13th birthday, I was bitten by a Northern Pacific rattlesnake at Yosemite National Park.

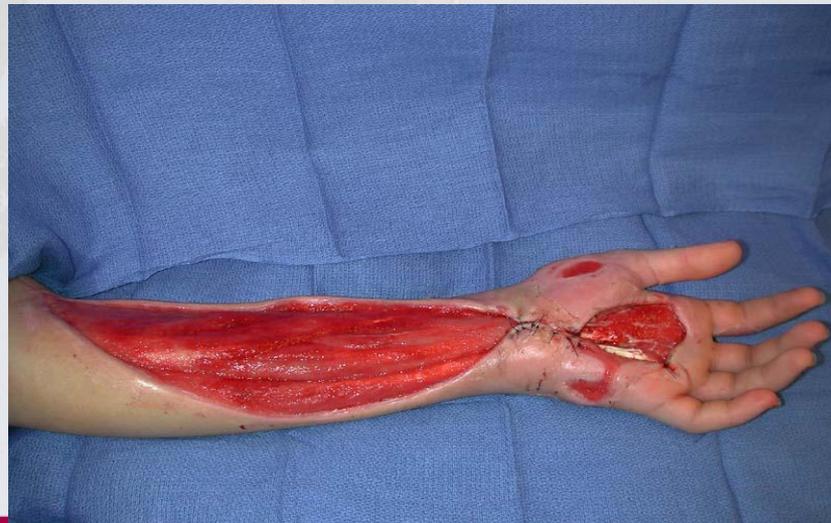
Example of Snake Bite (continued)

- The bite occurred when I was sitting on a small boulder at a distance of 4.5 miles from the trailhead with my cabin group at camp. I had my arms dangling at my side, and a 5 foot long rattlesnake bit me in the middle of my left palm.



Example of Snake Bite (continued)

- It took over four hours to reach an emergency room. Once there I underwent a fasciotomy, where doctors cut open my arm to relieve pressure that had built up in my arm from rattlesnake venom. It took over 2 years for me to fully use the arm again and with only 80 percent recovery.



EMSH-100a

Example of Snake Bite (continued)

- Cost was \$700,000 including 13 surgeries (8 which were just to clean out the dead tissue), helicopter flights and hospital stays.



- ▶ About WP&C
- ▶ WP&C Requirements and Guidance
- ▶ ILMS Guidance
- ▶ Tools
- ▶ External Drivers and Regulations
- ▶ Assurance

Effective work planning and control (WP&C) is critical to mission success.

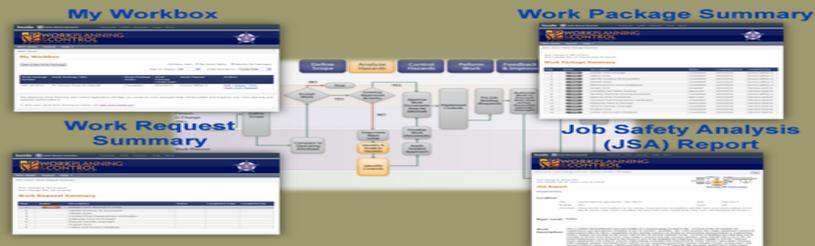


The eWPC Tool is Here!

The [eWPC tool](#) provides a sequential progression for developing an electronic work package. The tool address work activity or task scope, rigor level determination, work acceptance, hazard and control identification and evaluation, work authorization, activity execution and oversight, feedback collection, and activity improvement. By using eWPC, a Work Planner can help ensure:

- Good communication of work product requirements and hazard control information
- Appropriate involvement of workers, customers, safety and health program staff, and managers during activity-level task planning and review
- Appropriate level of documentation to record implementation of WP&C process steps for individual activity level work activities

What does the [eWPC Tool](#) look like?



How do I use the eWPC Tool?

Before using the tool, Sandia will provide instructional eWPC software sessions, which are approximately two hours long. Soon you will be able to register through TEDS using the course code WPC210. Contact Heidi Herrera at 505-845-7667 with any questions regarding eWPC.

The ISM Department is committed to continuing to partner with the line to achieve measurable improvements in WP&C process effectiveness and efficiency.

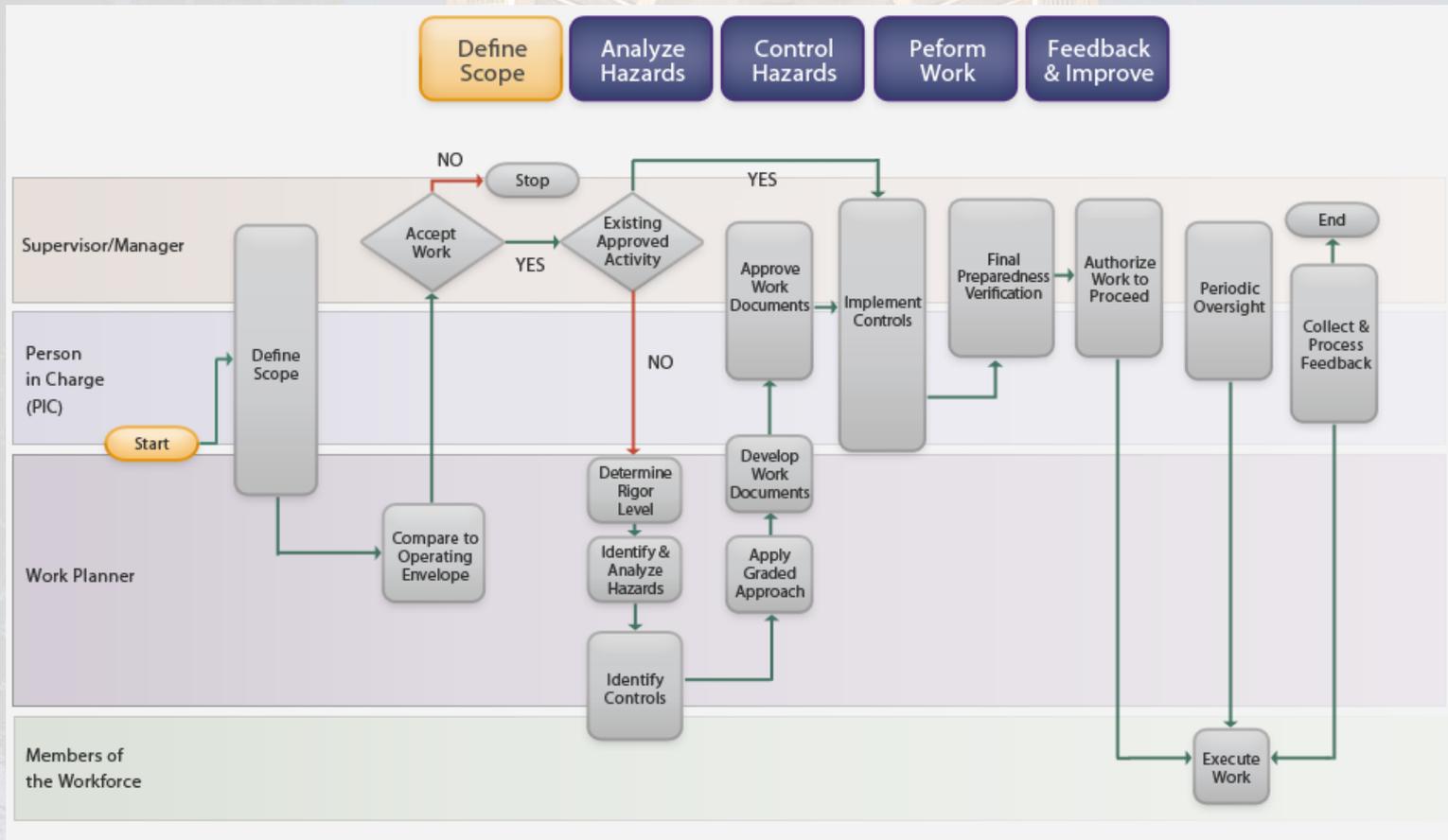
Implementation Assistance Teams (IAT) are available to assist managers and workers to:

- Implement organizational WP&C procedures
- Help with specific elements (skill of worker, JSA)
- Participate on the Line-led self-assessments
- Assist in resolution of findings and observations

Please direct questions to Fran Nimick (fbnimic@sandia.gov or 505-284-2577) or Heidi Herrera (hmherre@sandia.gov or 505-845-7667).

For access to this program contact by email Heidi Herrera (hmherre@sandia.gov) or Robin Perini at riperini@sandia.gov

The WP&C/JSA Process





Work Package #: WPC11-0044 | Rigor Level: Medium
 Work Package Title: Snake Relocation

Work Package Summary

[View Work Package](#)

Step	Action	Description	Status	Completed Date	Completed By
1	Edit	Initiate New Work Package	Completed	10/20/2011	
2	Edit	Define Work Activity Scope	Completed	2/24/2012	
3	Edit	Define Operating Envelope; Determine Activity Scope and Operating Envelope Compatibility	Completed	2/24/2012	
4	Edit	Identify Roles	Completed	12/12/2011	
5	Edit	Provide Work Acceptance or Rejection Recommendations	Completed	2/24/2012	
6		Accept Work	Pending		
7	Edit	Complete Job Safety Analysis	Pending		
8		Conduct Final Preparedness Verification			
9		Authorize Work to Proceed			
10		Perform Periodic Oversight			
11		Finalize Work			
12		Collect and Process Feedback			

Content Owner

[Redacted]

Website Contact

[Redacted]

For Technical Assistance

[Redacted]

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Version 2.3.0 (RedRiver) - November 1, 2011 (1600)

WORKPLANNING & CONTROL

Work Package Report

Work Package

Title: Snake Relocation
 Number: WPC11-0044
 Status: Initiated
 Type: Work Package - Routine Activity
 Rigor Level: Medium
 Customer Information:

Work Package Roles

Role	Name	Phone Number	Org Number	Org Title
Manager	[REDACTED]	[REDACTED]	[REDACTED]	Emergency Operations
PIC				Emergency Ops/IT Team
Work Planner				Trng/Facilities & Equip Team
Worker				Safety Engineering
Worker				Emergency Operations
Worker				IH Program
Worker				Trng/Facilities & Equip Team

Define Work Activity Scope

Work Activity Description

Work Activity Type:

Routine Activity

Narrative Work Activity Description:

This work activity is for snake location, capture and containment, transport, and release. The work activity addressed by this work package includes proper training for and response to emergency (911) and non-emergency (311) response calls requiring snake capture and relocation. This work scope applies to individuals in Departments 4236 and 4243 designated as incident responders. These individuals are limited to those completing 4143 snake handling (i.e., capture/relocation) procedure FOP 09-09. Snake capture and recovery typically involves 2 individuals. These are individuals from 4236, 4211, and or 4143. These individuals make up the snake call response team. One individual is responsible for snake bite management such as contacting 911 and transporting the injured person to ambulance meeting location, and the other individual for snake capture and relocation tasks addressed in the JSA. Snake capture involves the use of hand tools such as 5 gallon buckets, long handled snake hooks, cameras, and PPE (i.e., safety glasses, steel toed shoes, chaps, shark skin gloves, etc.) as listed on the JSA for this work package. Snake capture operations will exclude confined space entries, or entry into any area that impedes free mobility of the person capturing the snake, high voltage equipment, electrical substations, unknown chemical or radiological contamination areas, elevated work areas, beryllium operational areas, during times of severe weather (e.g., thunderstorms and dust storms). Snake capture operations will include all indoor and outdoor location at SNL/NM and SNL/TTR. Injuries are generally limited to trips and falls (e.g., ankle injuries), skin contusions (cuts and scraps) from cactus, man made debris (e.g., old lumber with nails) and rough surfaces. Lessons learned show that on-lookers can be a hazard to the individual responding and capturing the snake. On-lookers can restrict the evasive movements of the person capturing the snake and attempting to avoid snake contact. This has been addressed in the JSA. On-looker exclusion areas are included in the JSA.

Anticipated Work Activity Hazards and Risks:

Regarding capture, injuries are generally limited to trips and falls (e.g., ankle injuries), skin contusions (cuts and scraps) from cactus, man made debris (e.g., old lumber with nails) and rough surfaces. Regarding transport, workers must be aware of vehicular operation relative to effects on snake containment integrity. Inattention to rough driving conditions can result in snake containment failure and snake escape inside moving vehicle. This may precipitate vehicle accident or snake bite. Regarding snake release location and method, workers must be sure to tip bucket away from your body. The bucket may be tipped, and worker may back away. Worker awareness of walking surfaces is necessary prior to release so as to minimize tripping. Do not release next to vehicle as the snake may seek shade located behind the worker.

Complete Job Safety Analysis

Steps, Hazards, and Controls

Step	Hazard	Control
1. Operational hours. EOC receives snake call and dispatches Biologist first and they are unreachable then SNL IC and ERT during duty hours and after duty hours IC and security (4211) for backup person.	[Hazard Source: BN/A] None	None
2. Arrive on scene assess, assemble tools (bucket, gloves), establish contact w/calling party, assess environmental conditions relative to snake accessibility. Isolate and deny entry to snake recovery area. Determine and assess snake release location. Don appropriate PPE.	[Hazard Source: Uneven terrain, summer seasonal outdoor temperatures, lightning, blowing dust] Slips, trips & falls	Proper footwear - safety shoes and or boots
		Terrain awareness presented in 4136 Snake Handling Training materials
	[Hazard Source: weather (downpours, windy conditions, and lightning)] lightning strikes, foreign objects in the eyes.	Weather awareness, LEWS
	[Hazard Source: Identifying unknown hazards] Identifying unknown hazards to include as example; chemical, radiological, biological or mechanical hazards	Contact calling party, lab owner or IH to meet before entry.
		If unable to acquire snake due to unknown hazards, make workforce notification and mark the area with appropriate signage as a warning to workforce members.
		Notification to the calling party and ES&H Coordinator that snake was not acquired and signage was posted of the hazard.
	[Hazard Source: Solar UV] Sun burn to head, face, neck and arms.	Sun screen with SPF 50 or above.

JSA Reviewers and their comments

name	role	org	status	date	comments
[REDACTED]	Other	041361	non-concur	10/25/2011 12:32 PM	The locations are incorrect. All references to locations should be changes to: SNL/NM and SNL/TTR. Two more correction, remove KFAB and change Sandia to SNL/NM.
[REDACTED]	Line Industrial Hygienist	04127	concur	10/24/2011 7:20 AM	
[REDACTED]	Worker	041363	concur	10/24/2011 1:29 PM	I concur with this JSA.
[REDACTED]	Other	04143	concur	10/21/2011 6:26 AM	
[REDACTED]	Line Safety Engineer	04122	concur	10/21/2011 6:42 AM	
[REDACTED]	Quality	04136	concur	10/22/2011 8:33 AM	

JSA Approval

Approver:



Approval Date:

Conduct Final Preparedness Verification

Date:

Name: -

Org Number:

Org title:

Completion of the Process

- Job Safety Analysis provided for:
 - Standard Operating Procedure
 - Lesson Plans
 - Identification of the appropriate equipment requirements
 - Training of Personnel

Protection Factors

- Equipment, Training and good backup plan for the person relocating the snake.



Planning, Preparation, Training and Documentation

So if this Occurs:



DeadSnake.wmv

You need to have a plan in place to protect the public and your responders.

Summary

- Get your snakes in order
- Questions