

20.09.2022



DROPS

DROPPED OBJECTS PREVENTION SCHEME

WELCOME

09.15	Opening, Safety Brief and Contemplation	Allen Smith DROPS
09.17- 09.30	DROPS Summary	Allen Smith DROPS
09.30-10.00	Reflections and Learnings (2019 – date)	Blake Stephenson SHELL
10.00-10.15	Dropped Object Prevention through Review and Upgrading of Manufacturing Documents	Lukasz Szadkowski NOV
10.15-10.40	COFFEE BREAK	All Attendees
10.40-10.55	Dynamic vs Static Dropped Objects	Marc Henry SCHLUMBERGER
10.55-11.15	DROPS Strategy	Chris McCrindle / Scott McShane REPSOLSINOPEC
11.15-11.30	Shackle Story	Allen Smith DROPS Mike Rice Dropsafe
11.30 – 11.45	DROPS Resources and eLearn Awareness Update DROPS Champion Training (Drops Container)	Allen Smith DROPS Blake Stephenson SHELL
11.45 – 12.00	Q&A Closing Comments	All







DROPS Chapters active online

Opportunities to join and present on various corporate and industry event webinars



Regular TTT Sessions online for all time zones

Customised sessions online and onsite in Europe, Africa and Asia

Final stages in trialling new DROPS eLearn program





DROPSonline

Dropped Objects Prevention Scheme Global Resource Centre

Back

GET INVOLVED

SEARCH

Search query...

You are here: Home » Resources & Guidance

Resources & Guidance



Recommended Practice
Rev 02



DROPS RP Gap Analysis
Rev 02



DROPS Reliable Securing
Booklet Rev 04



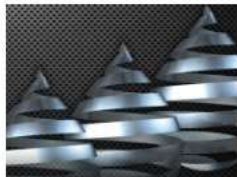
Backloading



DROPS Calculator



Alerts and Incidents



DROPS Products



Presentations



Poster Selection



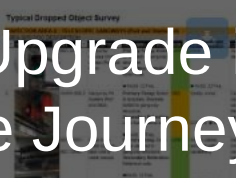
Pre-Task Guidance



DROPS Winter Awareness



DROPS Resource Guide



Survey and Inspection



Red Zones



Tools at Height Best Practice

ABOUT

CONTACT

MEMBERS

DROPS

DROPPED OBJECTS
PREVENTION SCHEME

Dropped Object Prevention Scheme
Recommended Practice

www.dropsonline.org

Website Upgrade inc. Recommended Practice
Interactive Journey

PRE-TASK CHECK

Important considerations to help eliminate risks

BE VIGILANT STOP

Dropped Objects occur everywhere. Ensure the task is safe and become a dropped object. Ensure the task is safe and ALWAYS ELIMINATE THE RISK. Remember, Dropped Objects Do Not Wait.

BEFORE YOU START ANY TASK, CONSIDER THE POTENTIAL FOR DROPPED OBJECTS.

Even if the task is not at height, consider the task is being performed and any work may be going on above, around and below your responsibility to ensure the safety of your actions do not create safety risks for others.

Worksite Checklist:

- ☐ Ensure appropriate barriers are in place in work area
- ☐ Ensure the extent of the banded zone is work height (Remember dropped items of considerable distances)
- ☐ Remove all loose or unnecessary items and around the worksite, eg empty boxes
- ☐ Check all equipment and structural fixing are secure, eg stacked material, hatches
- ☐ Check that secondary retention / safety items secured above the worksite, eg top equipment etc
- ☐ Where scaffolding is being used, check that no additional or unplanned work, heavy items stored on scaffold, gnt debris
- ☐ Check that all grating is secure
- ☐ Check that secure temporary storage is tools and any item of structure that will fall, grating, hatches etc
- ☐ Always use mats where there is a potential through gaps
- ☐ Ensure appropriate communications to the task in hand and the safety system been put in place.



DROPS



DROPS

CHOOSE YOUR FUTURE
For further details of DROPS Membership or Training
Email: admin@dropsonline.org



DROPS

CHOOSE YOUR FUTURE
For further details of DROPS Membership or Training
Email: admin@dropsonline.org



DROPS

CHOOSE YOUR FUTURE
For further details of DROPS Membership or Training
Email: admin@dropsonline.org



DROPS

CHOOSE YOUR FUTURE
For further details of DROPS Membership or Training
Email: admin@dropsonline.org



DROPS

CHOOSE YOUR FUTURE **MAKE A DIFFERENCE**
For further details of DROPS Guidance, Resources, Membership or Training:
Email: admin@dropsonline.org

www.dropsonline.org

General Tips for Object Free Work

Before starting any task, consider the potential for dropped objects. Even if your task is not at height, the environment where you will be working may have activities that may be going on above, around and below you.

☒ Pay particular attention to environmental factors such as wind, ground conditions, helicopter downdrafts, heavy machinery etc.

☒ Before commencing the task, inspect the work area for potential dropped object hazards, such as items and debris.

☒ Check all equipment and structural items in the work area to ensure that all fasteners, clips, covers, panels, hatch guards etc are properly secured.

☒ Check all secondary retention methods are in place (eg split / cotter pins, lock washers etc).

☒ Check all safety securing devices are in place, secured to structure.

Dynamic Dropped Objects

Combining Gravity with Vibration and Loading on Pressurised Equipment can create a dynamic dropped object source if possible. Ensure tool box talks, risk assessments and appropriate controls are in place.

Dynamic Dropped Objects Inspection Tips

Dynamic Dropped Objects can become disengaged due to vibration, loading and other factors. The following tips during all pre-task inspections at any time where dynamic forces are present can help identify potential hazards.

☒ Walk through each step of the task where dynamic forces will be present, such as equipment and structure, ensuring snagging potential is identified and managed. (See overleaf for dynamic forces).

☒ Where moving or moveable equipment is used, ensure all operating positions are fully in accordance with procedures and all OEM recommendations.

☒ Conduct tactile checks of equipment if safe to do so, request assistance for equipment that obstructs effective inspection.

☒ Immediately report any distortion, abrasions, corrosion or damage that has caused deterioration.

☒ Any unusual sounds that may indicate vibration, wear, imbalance should be reported to the equipment owner or Technical Authority immediately.

Question the robustness of continuous dynamic forces

In addition to routine vibration, continuous loading can create a dynamic dropped object source. Request assistance from the equipment owner for requirements for enhanced controls.

Helicopter Dropped Objects and Sidewall Hazards

Significant forces, compared to static loads, are generated during helicopter operations. Structures, work sites, equipment and personnel up to 25m or more can be affected.

☒ In addition to normal helicopter checks and inspections, consider the potential for dynamic dropped objects around and below the helicopter.

☒ Ensure all items are secured, including fire fighting equipment, boxes, luggage, fuel equipment etc.

☒ Clearly identify all appropriate routes to determine likelihood of dropped objects (roofs, stairs, gantries, etc).

☒ Consider potential for dropped objects through constricted areas and other work areas.

☒ Identify and assess in situ and retention methods and fixtures that are not an integral part of the helideck structure.

Many incidents have occurred where appropriate securing of equipment has not been verified. Verify that all fasteners are in place and secured in areas affected by dynamic forces.

Task Planning and Risk Assessment

Effective planning and risk assessment will ensure appropriate resources and personnel are assigned for the task to eliminate or reduce the likelihood of a dropped object.



☒ Always inspect the worksite prior to starting the job to eliminate pre-existing potential dropped objects, especially where recent activities have taken place or the worksite has been exposed to harsh environmental factors or dynamic forces.

☒ Understand each phase of the task, the equipment and tools being used and the associated hazards and challenges (securing techniques, access etc).

☒ Ensure any pre-lift inspection criteria is available and understood.

☒ Identify and talk through task steps where it is more likely that a dynamic dropped object could occur and how this can be prevented.

☒ Be realistic and specific in identifying potential dropped objects (tool, radio, hardware, debris, hard hat etc).

Consider the 'Cone of Exposure'; the potential path that a dropped object may take including deflections or routes through gaps and hatches to lower levels.

Take special care to identify and assess environmental factors such as weather, sea motion, movement, poor visibility etc.

Apply the DROPS Calculator to inform the risk assessment process on potential consequences to personnel, and also consider potential for dropped objects to cause damage to critical equipment and environment too.

Always seek further guidance where risk cannot be reduced by preventive measures.

Ensure all controls are clearly understood and take regular time outs to monitor and verify effectiveness.

Always apply Hierarchy of Control principles where the potential for a dropped object has been identified. Ensure Preventive engineered and administrative controls are in place and verified. Ensure robust mitigating controls are available implemented should the preventive controls fail.



PRE-TASK CHECKLIST

Important considerations, precautions and checks to help eliminate potential dropped objects.

BE VIGILANT STOP THE JOB IF

Dropped Objects occur everywhere. Every item that is stored, used or moved can become a dropped object. Ensure the appropriate controls are in place and ALWAYS ELIMINATE THE RISK TO PERSONNEL by ensuring that the work area is clear of any potential hazards.

Remember, Dropped Objects Do Harm and Do Kill... and they can be prevented.

BEFORE YOU START ANY TASK, CONSIDER THE POTENTIAL FOR DROPPED OBJECTS.

Even if the task is not at height, consider the environment where the task is being performed and any other activities that may be going on above, around and below you. Remember, it is your responsibility to ensure the safety of yourself and that your actions do not create safety risks for others around you.

Worksite Checklist:

- ☐ Ensure appropriate barriers are in place around and below the work area
- ☐ Ensure the extent of the barriered zone is appropriate to the work height (Remember dropped items can bounce and travel considerable distances)
- ☐ Remove all loose or unnecessary items and debris from above and around the worksite, eg empty boxes, pallets, snow/ice etc
- ☐ Check all equipment and structural fixings, fastenings and covers are secure, eg stacked material, hatches etc
- ☐ Check that secondary retention / safety systems are in place for items secured above the worksite, eg lighting, temporary equipment etc
- ☐ Where scaffolding is being used, check toe-boards are installed and that no additional or unplanned weight has been applied, eg heavy items stored on scaffold, gnt debris etc
- ☐ Check that all grating is secure
- ☐ Check that secure temporary storage is available for equipment, tools and any item of structure that will be removed, eg guard rails, grating, hatches etc
- ☐ Always use mats where there is a potential for items to fall through gaps
- ☐ Ensure appropriate communications to advise all personnel of the task in hand and the safety systems and controls that have been put in place.



CHOOSE YOUR FUTURE MAKE A DIFFERENCE
For further information or details of any DROPS program, visit our website or contact the DROPS Administrator.
Email: admin@dropsonline.org

LISTA DE VERIFICACION PREVIA A LA TAREA

Consideraciones importantes, precauciones y controles para eliminar el potencial de caídas de objetos.

MANTÉNGASE ALERTA DETENGA EL TRABAJO SI

La caída de objetos puede ocurrir en cualquier lugar. Cada elemento que se almacena, utiliza o mueve puede convertirse en un objeto que cae. Asegúrese de que se eliminan los riesgos de caída de objetos y de que se eliminan los riesgos de caída de personas. Recuerde: un objeto que cae lastima y mata... y puede ocurrir en cualquier lugar.

ANTES DE COMENZAR UNA TAREA, EVALÚE EL POTENCIAL DE CAÍDA DE OBJETOS

Incluso si la tarea no es en altura, considere el entorno donde se realiza y cualquier otra actividad que pueda haber arriba, alrededor y debajo suyo. Recuerde que es responsabilidad suya garantizar su seguridad y cuidar que sus acciones no creen riesgos de seguridad para quienes están a su alrededor.

Lista de verificación del lugar de trabajo:

- ☐ Verifique que estén colocadas las barreras adecuadas alrededor y debajo del área de trabajo.
- ☐ Verifique que la extensión de la zona delimitada sea adecuada para la altura de trabajo (recuerde que cuando un objeto cae, puede rebotar y viajar una distancia considerable).
- ☐ Retire todos los restos, desechos y demás elementos sueltos o innecesarios de arriba y de alrededor del lugar de trabajo, por ejemplo, cajas vacías, espátulas, nieve/hielo, etc.
- ☐ Compruebe que todos los equipos y las fijaciones estructurales, sujetadores y tapas estén firmes, por ejemplo, material apilado, escotillas, etc.
- ☐ Compruebe que se hayan aplicado los sistemas de seguridad/retención secundaria para los elementos asegurados arriba del lugar de trabajo, por ejemplo, iluminación, equipo temporal, etc.
- ☐ Cuando se utilicen andamios, compruebe que los rodapiés estén instalados y que no se haya aplicado peso adicional o no planificado, por ejemplo, artículos pesados almacenados en el andamio, escombros, etc.
- ☐ Compruebe que todas las rejillas estén aseguradas.
- ☐ Compruebe que se dispone de un almacenamiento temporal seguro para equipos, herramientas y cualquier elemento de la estructura que se vaya a extraer, por ejemplo, barandas, rejillas, escotillas, etc.
- ☐ Utilice siempre esteras donde exista la posibilidad de que caigan objetos por espacios abiertos.
- ☐ Asegure comunicaciones apropiadas para informar a todo el personal sobre la tarea en cuestión y sobre los sistemas y controles de seguridad que se han implementado.



ELIJA SU FUTURO
Para mayor información sobre el programa, visite nuestro sitio web o contacte al Administrador de DROPS.
Email: admin@dropsonline.org

Planificación de la tarea y evaluación de riesgos

La eficacia de la planificación y de la evaluación de riesgos garantizará que se asignen los recursos y el personal adecuados para la tarea, a fin de eliminar o reducir la probabilidad de caída de objetos.



☒ Inspeccione siempre el lugar antes de iniciar un trabajo, para eliminar el potencial preexistente de caída de objetos, especialmente cuando se han realizado actividades recientemente o el lugar de trabajo ha estado expuesto a factores ambientales o a fuerzas dinámicas severas.

☒ Comprenda cada fase de la tarea, del equipo y herramientas que se están utilizando, y los peligros y dificultades asociados (técnicas de aseguramiento, acceso, etc.).

☒ Asegúrese de que se dispone de criterios para la inspección previa a la elevación y de su comprensión.

☒ Identifique y analice las etapas de la tarea donde hay mayor probabilidad de que se produzca una caída de objetos dinámica y cómo se puede prevenir.

☒ Sea realista y específico en la identificación de posibilidades de caída de objeto (herramienta, radio, elementos de ferretería, descartes, casco, etc.).

☒ Considere el 'Cono de Exposición', el camino potencial que un objeto que cae puede seguir, incluidas las desviaciones o rutas a través de espacios abiertos y escotillas que dan a niveles más bajos.

☒ Tenga especial cuidado en identificar y evaluar factores ambientales como el clima, oleaje, movimientos, mala visibilidad, etc.

☒ Use la Calculadora DROPS para informar el proceso de evaluación de riesgos sobre las posibles consecuencias para el personal, y también considere la posibilidad de que un objeto que cae puede dañar equipos críticos y también al medio ambiente.

☒ Siempre busque mayor orientación cuando no se puede reducir el riesgo con medidas preventivas.

☒ Asegúrese de que todos los controles se entiendan claramente, y dedique tiempo periódicamente a vigilar y a verificar su eficacia.

Siempre aplique los principios de la Jerarquía de Control cuando se haya identificado el potencial de una caída de objeto. Asegúrese de que se implementen y verifiquen los controles administrativos y técnicos preventivos. Verifique que se implementen los controles de mitigación sólidos para actuar en caso de falla de los controles preventivos.



ELIJA SU FUTURO MARQUE LA DIFERENCIA
Para mayor información sobre orientación, recursos, membresía y capacitación DROPS:
Email: admin@dropsonline.org
www.dropsonline.org



SEARCH 1 – TASK DESIGN & PROCEDURE

GUIDANCE: Break the task into steps and talk about how easy / difficult they are. Think about other activities going on at the same time.

ERROR TRAPS:

- ☐ Interruptions or distractions
- ☐ Procedure time consuming / steps are too complex or difficult
- ☐ Communications are difficult
- ☐ Safety related information (hazards & controls) and warnings not clear in procedure
- ☐ Boring, unimportant or repetitive actions
- ☐ *What else may make using the procedure difficult?*

SEARCH 2 – PEOPLE & RESOURCES

GUIDANCE: Talk about how prepared people are for the task, if there is enough time and the right equipment.

ERROR TRAPS:

- ☐ Not enough people to complete the job
- ☐ Not given enough time
- ☐ People lack the right experience or knowledge
- ☐ The right tools / equipment not available or working properly
- ☐ *What else may you need to complete the job successfully?*



HUMAN PERFORMANCE
OIL & GAS

SEARCH 3 – CHANGE

GUIDANCE: Consider what can change since the task was last done or how it may be different to other jobs you are used to. Also think about what can change during the job.

ERROR TRAPS:

- ☐ New tool confused with previous version
- ☐ Task not as expected, e.g. valve opens to the left whereas all other valves open to the right
- ☐ Procedure inaccurate / out of date
- ☐ A new situation arises that requires improvising or trouble shooting
- ☐ *What else is making your job difficult?*

TASK CHECK

Similar to a Hazard Hunt, the objective of this Human Performance Check is to identify factors which cause people to make mistakes when they perform tasks in your workplace.

Pick a task or activity to discuss as a group. Ensure there is an operator or person who currently performs the task to talk about how the work is really performed.

Error Traps are the range of physical, psychological, social or organizational influences which affect Human Performance and how people carry out their activities.

SEARCH 4 – LOCATION, EQUIPMENT & INTERFACES

GUIDANCE: Talk about the environment in the task location and how easy the equipment is to use.

ERROR TRAPS:

- ☐ Physical working environment difficult to work in (heat, noise, light etc.)
- ☐ System interface is difficult to understand
- ☐ Controls are easy to activate accidentally
- ☐ Controls similar to each other
- ☐ Signs and signals are unclear
- ☐ Operators cannot easily reverse their actions
- ☐ *What else makes using the systems difficult?*

AutoSave Off Dropped-Objects-Exclusion-Zone-Tool-(Final-Draft) Search (Alt+Q) Allen Smith

File Home Insert Page Layout Formulas Data Review View Help Acrobat

Undo Clipboard Font Alignment Number Styles Cells Editing

E9 fx 30

This tool has four inputs: Metric or Imperial, Height of Dropped Object and Height of Deflection (both measured from the ground). The tool predicts the horizontal distance (radius) and associated probability where a steel object will strike the ground following a static drop and deflection. See "Example" sheet tab below for an example.

Inputs		
STEP 1: Select Metric or Imperial		Metric
STEP 2: Input Height of Object (meters)		30.0
STEP 3: Input Height of Deflection (meters)		6.0
Approximate Outputs (Distance to strike the ground)		
100 th Percentile Distance (radius in meters)		32.2
75 th Percentile Distance (radius in meters)		28.7
50 th Percentile Distance (radius in meters)		19.6
25 th Percentile Distance (radius in meters)		9.4

Exclusion Zone Bullseye

— 100th Percentile Distance
— 75th Percentile Distance

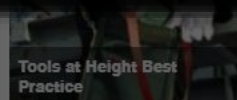
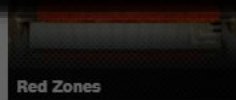
Deflection Trajectories

Height of Dropped Object

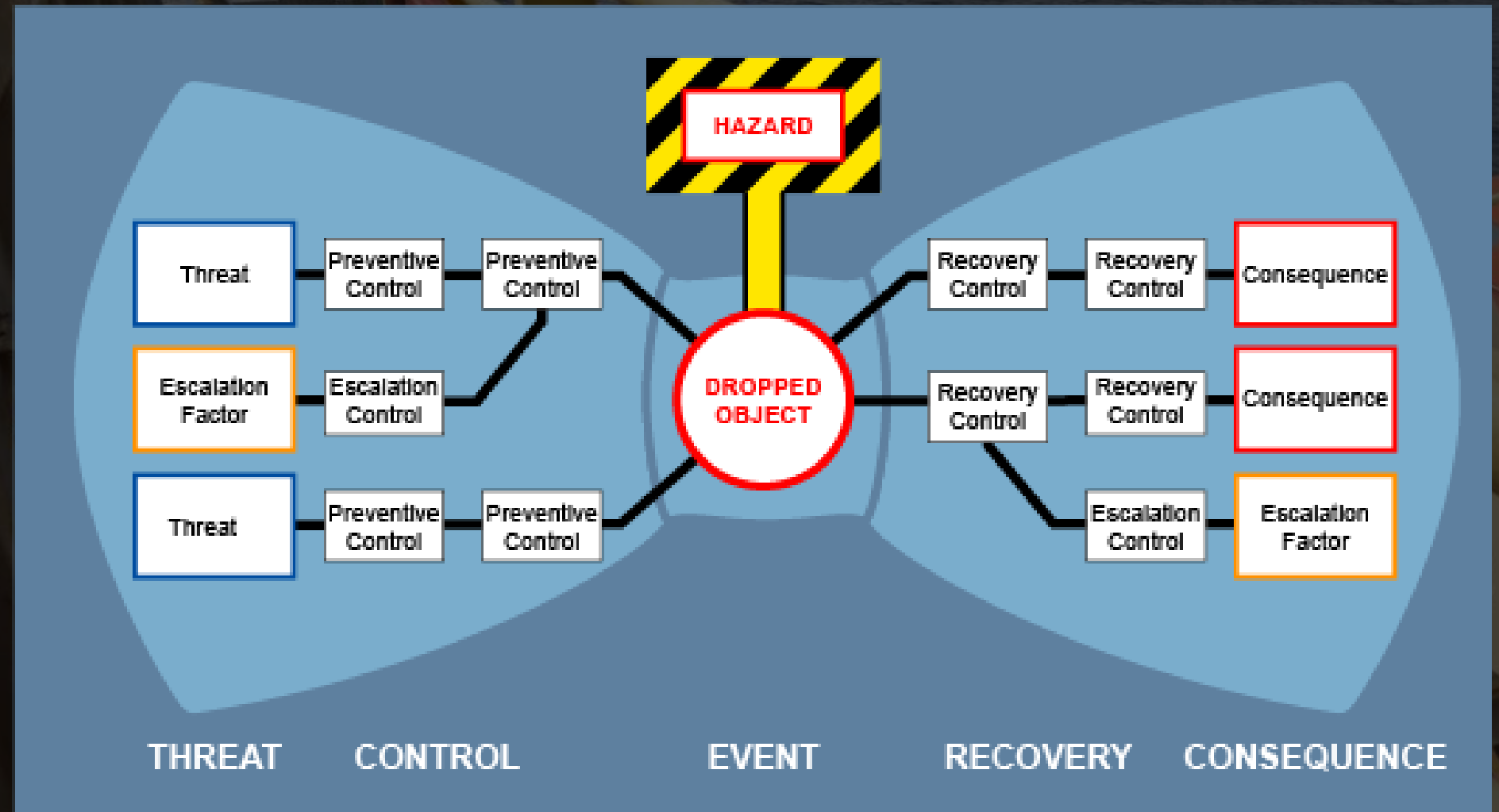
Height of Deflection

Side View of Deflection

Tool Example



BOW TIE MODEL





WELCOME

09.15	Opening, Safety Brief and Contemplation	Allen Smith DROPS
09.17- 09.30	DROPS Summary	Allen Smith DROPS
09.30-10.00	Reflections and Learnings (2019 – date)	Blake Stephenson SHELL
10.00-10.15	Dropped Object Prevention through Review and Upgrading of Manufacturing Documents	Lukasz Szadkowski NOV
10.15-10.40	COFFEE BREAK	All Attendees
10.40-10.55	Dynamic vs Static Dropped Objects	Marc Henry SCHLUMBERGER
10.55-11.15	DROPS Strategy	Chris McCrindle / Scott McShane REPSOLSINOPEC
11.15-11.30	Shackle Story	Allen Smith DROPS Mike Rice Dropsafe
11.30 – 11.45	DROPS Resources and eLearn Awareness Update DROPS Champion Training (Drops Container)	Allen Smith DROPS Blake Stephenson SHELL
11.45 – 12.00	Q&A Closing Comments	All



Thank You



DROPS

DROPPED OBJECTS PREVENTION SCHEME