

MSA FACILITIES SAFETY AND HEALTH INSPECTION PROGRAM

Using Appendix B
Guidelines for Graded Approach



Guidelines for Graded Approach

At the completion of this unit you shall be able to:

1. Understand the concept of risk management for reporting facility inspection issues.
2. Utilize Appendix B of MSC-PRO-7652 to identify the level of reporting necessary for facility inspection issues.

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Guidelines for Graded Approach



- ▣ Our procedure, *Corrective Action Management*, “establishes the Corrective Action Management (CAM) process requirements and responsibilities for the timely identification and evaluation of conditions adverse to quality, safety, health, operability, and the environment ...”

Guidelines for Graded Approach

- ❑ This procedure requires that an Issues Identification Form(IIF) and process be used to document and track to resolutions issues that include facilities inspections.
- ❑ It does allow the use of a “graded” approach.
- ❑ Appendix B provides that approach.



Guidelines for Graded Approach

- ▣ Appendix B of the procedure serves as this tool to determine if issues found as a result of facilities inspection need to be documented and what level of documentation and reporting is necessary.

HANFORD MISSION SUPPORT CONTRACT

Safety and Health Inspections

MSC-PRO-7652

Revision 1

Effective Date: December 8, 2011

Topic: Worker Protection

Approved for Public Release;
Further Dissemination Unlimited

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Guidelines for Graded Approach

- Appendix B of the procedure uses a series of colors as a means of identifying the reporting levels you may need to follow.

APPENDIX B
 Guidelines for Graded Approach to Reporting and Tracking Safety and Health Inspection Issues

Rating	Severity			Likelihood				
	People	Assets	Reputation	4	3	2	1	
				Frequent Has occurred and is known to recur	Likely Has occurred and is reasonable to expect to	Unlikely Has not occurred but is reasonable expect to	Rare/Not Has not occurred and is not reasonable expected to	
4	Major	Lost work day, restricted work days	Production stopped, equipment or facility out of service for > 1 week.	National Attention, DOE Inquiry, possible PAAA issues	16	12	8	4
3	Serious	Recordable Injury	Minimal damage to production, Stop Work, minimal equipment loss <1000\$	Companywide concern, brief local area attention, DOE review/concern	12	9	6	3
2	Moderate	Slight injury or health effects (self/next) or first aid	Negative production loss, minimal damage to facilities or equipment	Localized concerns	8	6	4	2
1	Minimal	No injury or health effects not affecting work performance or causing disability	No production loss, no damage to facilities or equipment	No adverse effect on company or DOE reputation	4	3	2	1

	No reporting necessary may track if organization desires to.
	Must record and track on the safety log or similar organizations safety issues database
	Must submit an IIF to CAMS for tracking and resolution.

- Steps to using the matrix:
- Classify the severity of the issue should it fail or cause a failure and result in one of the described outcomes. Assign a rating of 1 – 4 as described above.
 - Determine the likelihood the issue failing or causing a failure and resulting in the outcome and assign it a value of 1 – 4 as described above.
 - Multiply the (Severity Rating) X (Likelihood Value) and find the resultant product in the matrix above.

- Examples:
- During a Safety and Health Inspection a dirty microwave was found with food particles and burnt sauce. This was identified as a deficiency.

Guidelines for Graded Approach

- ▣ The first action is colored green. No reporting or tracking is necessary (Unless the facility chooses to.



Green	No reporting necessary may track if organization desires to.
Yellow	Must record and track on the safety log or similar organizations safety issues database
Red	Must submit an IIF to CAMS for tracking and resolution.

Steps to using the matrix:

Guidelines for Graded Approach

- The second action is colored Yellow. The facility will need to ensure that the issue is placed and tracked in the safety log or similar electronic database. Bear in mind that if an “extent of condition” is necessary an IIF is required.

	No reporting necessary may track if organization desires to.
 →	Must record and track on the safety log or similar organizations safety issues database
	Must submit an IIF to CAMS for tracking and resolution.

Steps to using the matrix:

Guidelines for Graded Approach

- ▣ The third action is colored Red. The facility will need to ensure that the issue is reported as an IIF in accordance with MSC-PRO-052

	No reporting necessary may track if organization desires to.
	Must record and track on the safety log or similar organizations safety issues database
	Must submit an IIF to CAMS for tracking and resolution.

Steps to using the matrix:

Guidelines for Graded Approach

- ▣ The matrix is used as follows:

Severity					Likelihood			
Rating		People	Assets	Reputation	4	3	2	1
					Frequent	Likely	Unlikely	Remote
					Has occurred and is known to again	Has occurred and reasonable to expect to	Has not occurred but is reasonable to expect to	Has not occurred and is not reasonable to expect to
4	Major	Lost work day, restricted work days	Production stopped, equipment or facility out of service for > 1week	National Attention, DOE Inquiry, possible PAAA issues	16	12	8	4
3	Serious	Recordable Injury	Minimal damage to production, Stop Work, minimal equipment loss <1000\$	Companywide concern, brief local area attention, DOE review/concern	12	9	6	3
2	Moderate	Slight injury or health effects (self treat) or first aid	Negligible production loss, minimal damage to facilities or equipment	Localized concerns	8	6	4	2
1	Minimal	No injury or health effects not affecting work performance or causing disability	No production loss, no damage to facilities or equipment	No adverse effect on company or DOE reputation.	4	3	2	1

Guidelines for Graded Approach

1. Classify the severity of the issue should it fail or cause a failure and result in one of the described outcomes. Assign a rating of 1 – 4 as described in the matrix.

Severity					Likelihood			
Rating		People	Assets	Reputation	4	3	2	1
					Frequent Has occurred and is known to again	Likely Has occurred and reasonable to expect to	Unlikely Has not occurred but is reasonable expect to	Remote Has not occurred and is not reasonable expected to
4	Major	Lost work day, restricted work days	Production stopped, equipment or facility out of service for > 1week	National Attention, DOE Inquiry, possible PAAA issues	16	12	8	4
3	Serious	Recordable Injury	Minimal damage to production, Stop Work, minimal equipment loss <1000\$	Companywide concern, brief local area attention, DOE review/concern	12	9	6	3
2	Moderate	Slight injury or health effects (self treat) or first aid	Negligible production loss, minimal damage to facilities or equipment	Localized concern	8	6	4	2
1	Minimal	No injury or health effects not affecting work performance or causing disability	No production loss, no damage to facilities or equipment	No adverse effect on company or DOE reputation.	4	3	2	1

Guidelines for Graded Approach

1. Classify the severity of the issue should it fail or cause a failure and result in one of the described outcomes. Assign a rating of 1 – 4 as described in the matrix.
2. Determine the likelihood the issue failing or causing a failure and resulting in the outcome and assign it a value of 1 – 4 as described in the matrix.

Severity					Likelihood			
Rating		People	Assets	Reputation	4	3	2	1
					Frequent Has occurred and is known to again	Likely Has occurred and reasonable to expect to	Unlikely Has not occurred but is reasonable expect to	Remote Has not occurred and is not reasonable expected to
4	Major	Lost work day, restricted work days	Production stopped, equipment or facility out of service for > 1week	National Attention, DOE inquiry, possible PAAA issues	16	12	8	4
3	Serious	Recordable Injury	Minimal damage to production, Stop Work, minimal equipment loss <1000\$	Companywide concern, brief local area attention, DOE review/concern	12	9	6	3
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Guidelines for Graded Approach

1. Classify the severity of the issue should it fail or cause a failure and result in one of the described outcomes. Assign a rating of 1 – 4 as described in the matrix.
2. Determine the likelihood the issue failing or causing a failure and resulting in the outcome and assign it a value of 1 – 4 as described in the matrix.
3. Multiply the (Severity Rating) X (Likelihood Value) and find the resultant product (or risk) in the matrix .

Severity					Likelihood			
Rating		People	Assets	Reputation	4	3	2	1
					Frequent Has occurred and is known to again	Likely Has occurred and reasonable to expect to	Unlikely Has not occurred but is reasonable to expect to	Remote Has not occurred and is not reasonable expected to
4	Major	Lost work day, restricted work days	Production stopped, equipment or facility out of service for >1week	National Attention, DOE Inquiry, possible PAAA issues	16	12	8	4
3	Serious	Recordable Injury	Minimal damage to production, Stop Work, minimal equipment loss <1000\$	Companywide concern, brief local area attention, DOE review/concern	12	9	6	3
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Severity X Likelihood = Risk

Guidelines for Graded Approach

- Let's take a look at some applications for this risk based graded approach.

Severity					Likelihood			
Rating	People	Assets	Reputation	4	3	2	1	
				Frequent	Likely	Unlikely	Remote	
				Has occurred and is known to again	Has occurred and reasonable to expect to	Has not occurred but is reasonable to expect to	Has not occurred and is not reasonable expected to	
4	Major	Lost work day, restricted work days	Production stopped, equipment or facility out of service for > 1week	National Attention, DOE Inquiry, possible PAAA issues	16	12	8	4
3	Serious	Recordable Injury	Minimal damage to production, Stop Work, minimal equipment loss <1000\$	Companywide concern, brief local area attention, DOE review/concern	12	9	6	3
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Guidelines for Graded Approach

- The first example would be if a serious issue were to be identified.
 - The inspection team identified a location where the facility had placed a rack and stored boxes of supplies in front of electrical panel and disconnects.
 - The requirement is that an area of 36 inches in front of electrical panels must be kept clear.



		Severity			Likelihood			
		People	Assets	Reputation	4	3	2	1
Rating					Frequent	Likely	Unlikely	Remote
					Has occurred and is known to again	Has occurred and reasonable to expect to	Has not occurred but is reasonable to expect to	Has not occurred and is not reasonable to expect to
4	Major	Lost work day, restricted work days	Production stopped, equipment or facility out of service for >1week	National Attention, DOE Inquiry, possible PAAA issues	16	12	8	4
3	Serious	Recordable Injury	Minimal damage to production, Stop Work, minimal equipment loss <1000\$	Companywide concern, brief local area attention, DOE review/concern	12	9	6	3
2	Moderate	Slight injury or health effects (self treat) or first aid	Negligible production loss, minimal damage to facilities or equipment	Localized concerns	8	6	4	2
1	Minimal	No injury or health effects not affecting work performance or causing disability	No production loss, no damage to facilities or equipment	No adverse effect on company or DOE reputation.	4	3	2	1

Guidelines for Graded Approach

- The first example would be if a serious issue were to be identified.
- The initial step is to determine the severity of the issue should the condition (blocked access to the panels and disconnects) cause a failure and result in one of the outcomes.

Rating	Severity			Likelihood			
	People	Assets	Reputation	4	3	2	1
	Has occurred and is known to again	Has occurred and reasonable to expect to	Has not occurred but is reasonable to expect to	Has not occurred and is not reasonable expected to			
4	Major Loss > 10 work days restricted work days	Production stopped, equipment or facility out of service for > 1 week	Notional Attention, DOE Inquiry, possible PAAA issues	16	12	8	4
3	Serious Recordable Injury	Minimal damage to production, Stop Work, minimal equipment loss < 1000\$	Companywide concern, brief local area attention, DOE review/concern	12	9	6	3
2	Moderate Slight injury or health effects (self treat) or first aid	Negligible production loss, minimal damage to facilities or equipment	Localized concerns	8	6	4	2
1	Minimal No injury or health effects not affecting work performance or causing disability	No production loss, no damage to facilities or equipment	No adverse effect on company or DOE reputation.	4	3	2	1



Guidelines for Graded Approach

- The first example would be if a serious issue were to be identified.
 - The initial step is to determine the severity of the issue should the condition (blocked access to the panels and disconnects) cause a failure and result in one of the outcomes.
 - In this case the location of the shelf and material could prevent access to the disconnect, this could mean a fire or someone being shocked in a worst case severity or rated as a 4 or major.
 - Take a moment to review the severity for a Rating of "4" and see if you agree.

Rating	Severity			Likelihood				
	People	Assets	Reputation	4	3	2	1	
				Frequent Has occurred and is known to again	Likely Has occurred and reasonable to expect to	Unlikely Has not occurred but is reasonable expect to	Remote Has not occurred and is not reasonable expected to	
4	Major	Lost work day, restricted work days	Production stopped, equipment or facility out of service for > 1week	National Attention, DOE Inquiry, possible PAAA issues	16	12	8	4
3	Serious	Recordable Injury	Minimal damage to production, Stop Work, minimal equipment loss <1000\$	Companywide concern, brief local area attention, DOE review/concern	12	9	6	3
2	Moderate	Slight injury or health effects (self treat) or first aid	Negligible production loss, minimal damage to facilities or equipment	Localized concerns	8	6	4	2
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Guidelines for Graded Approach

- The first example would be if a serious issue were to be identified.
 - The next step is to determine the likelihood of the issue should the condition (blocked access to the panels and disconnects) cause a failure and result in the outcome you identified in the first step.
 - In this case the likelihood of the condition causing the severity described earlier would probably be Unlikely, the fire or electrocution has not occurred (hopefully) but should the condition remain it would be reasonable to expect it to.
 - Take a moment to review the likelihood for a Rating of "2" and see if you agree.

Severity					Likelihood			
Rating	People	Assets	Reputation		4	3	2	1
					Frequent Has occurred and is known to again	Likely Has occurred and reasonable to expect to	Unlikely Has not occurred but is reasonable expect to	Remote Has not occurred and is not reasonable expected to
4	Major	Lost work day, restricted work days	Production stopped, equipment or facility out of service for > 1week	National Attention, DOE Inquiry, possible PAAA issues	16	12	8	4
3	Serious	Recordable Injury	Minimal damage to production, Stop Work, minimal equipment loss <1000\$	Companywide concern, brief local area attention, DOE review/concern	12	9	6	3
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Guidelines for Graded Approach

- The first example would be if a serious issue were to be identified.
 - The final step is to determine the level of risk.
 - This is done by multiplying the severity rating (4) by the likelihood rating (2)
 - The resulting product or risk is an “8” which would require an IIF to be filed.

Severity				Likelihood			
Rating	People	Assets	Reputation	4	3	2	1
				Frequent Has occurred and is known to again	Likely Has occurred and reasonable to expect to	Unlikely Has not occurred but is reasonable expect to	Remote Has not occurred and is not reasonable expected to
4	Major Lost work day, restricted work days	Production stopped, equipment or facility out of service for > 1week	National Attention, DOE Inquiry, possible BAAA issues	16	12	8	4
3	Serious Recordable Injury	Minimal damage to production, Stop Work, minimal equipment loss <1000\$	Companywide concern, brief local area attention, DOE review/concern	12	9	6	3
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Guidelines for Graded Approach

- The first example would be if a serious issue were to be identified.
 - At the same time some personnel might feel that while a severity rating of 4 was appropriate.
 - These same personnel might feel that the likelihood of a failure due to this issue (a fire or electrocution) to be remote or not having occurred and not expected too.
 - In this case the risk rating would 4 times 1 for a risk rating of 4. This item would need to be tracked in the safety log or similar database system for that location.
 - Bear in mind that if an extent of condition is needed you will still need to generate an IIF.

Severity				Likelihood				
Rating	People	Assets	Reputation	4	3	2	1	
				Frequent Has occurred and is known to again	Likely Has occurred and reasonable to expect to	Unlikely Has not occurred but is reasonable expect to	Remote Has not occurred and is not reasonable expected to	
4	Major	Lost work day, restricted work days	Production stopped, equipment or facility out of service for > 1week	National Attention, DOE Inquiry, possible RAAA issues	16	12	8	4
3	Serious	Recordable Injury	Minimal damage to production, Stop Work, minimal equipment loss <1000\$	Companywide concern, brief local area attention, DOE review/concern	12	9	6	3
2	Moderate	Slight injury or health effects (self treat) or first aid	Negligible production loss, minimal damage to facilities or equipment	Localized concerns	8	6	4	2
1	Minimal	No injury or health effects not affecting work performance or causing disability	No production loss, no damage to facilities or equipment	No adverse effect on company or DOE reputation.	4	3	2	1



Guidelines for Graded Approach

- The second example would be if a non serious issue were to be identified.
- In this case facility inspectors found a refrigerator that had some food in it that was well beyond its prime as well as spills from toppled containers or broken condiment bottles.



Rating		Severity			Likelihood			
		People	Assets	Reputation	4	3	2	1
					Frequent Has occurred and is known to again	Likely Has occurred and reasonable to expect to	Unlikely Has not occurred but is reasonable expect to	Remote Has not occurred and is not reasonable expected to
4	Major	Lost work day, restricted work days	Production stopped, equipment or facility out of service for >1-week	National Attention, DOE Inquiry, possible BAAA issues	16	12	8	4
3	Serious	Recordable Injury	Minimal damage to production, Stop Work, minimal equipment loss <1000\$	Companywide concern, brief local area attention, DOE review/concern	12	9	6	3
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Guidelines for Graded Approach

- As in the previous example you will need to:
 - Rank the severity of the issue. In this case we can decide that the potential severity would be minimal (unless someone ate that one substance that is either very new cheese or very old bologna) for a value of "1" or "Minimal".
 - Next you will determine the likelihood of the issue creating the potential severity. For this case we could give it a "2" or "Unlikely".

Rating		Severity			Likelihood			
		People	Assets	Reputation	4	3	2	1
					Frequent Has occurred and is known to again	Likely Has occurred and reasonable to expect to	Unlikely Has not occurred but is reasonable expect to	Remote Has not occurred and is not reasonable expected to
4	Major	Lost work day, restricted work days	Production stopped, equipment or facility out of service for >1week	National Attention, DOE Inquiry, possible PAAA issues	16	12	8	4
3	Serious	Recordable Injury	Minimal damage to production, Stop Work, minimal equipment loss >1000\$	Companywide concern, brief local area attention, DOE review/concern	12	9	6	3
2	Moderate	Slight injury or health effects (self treat) or first aid	Negligible production loss, minimal damage to facilities or equipment	Localized concerns	8	6	4	2
1	Minimal	No injury or health effects not affecting work performance or causing disability	No production loss, no damage to facilities or equipment	No adverse effect on company or DOE reputation.	4	3	2	1



Guidelines for Graded Approach

- To determine the risk score in this example you would:
- Multiply the severity rating of 1

Rating		Severity			Likelihood			
		People	Assets	Reputation	4	3	2	1
					Frequent Has occurred and is known to again	Likely Has occurred and reasonable to expect to	Unlikely Has not occurred but is reasonable expect to	Remote Has not occurred and is not reasonable expected to
4	Major	Lost work day, restricted work days	Production stopped, equipment or facility out of service for >1week	National Attention, DOE Inquiry, possible PAAA issues	16	12	8	4
3	Serious	Recordable Injury	Minimal damage to production, Stop Work, minimal equipment loss <1000\$	Companywide concern, brief local area attention, DOE review/concern	12	9	6	3
2	Moderate	Slight injury or health effects (self treat) or first aid	Negligible production loss, minimal damage to facilities or equipment	Localized concerns	8	6	4	2
1	Minimal	No injury or health effects not affecting work performance or causing disability	No production loss, no damage to facilities or equipment	No adverse effect on company or DOE reputation.	4	3	2	1



Guidelines for Graded Approach

- To determine the risk score in this example you would:
 - Multiply the severity rating of 1
 - By the likelihood of 2

Rating		Severity			Likelihood			
		People	Assets	Reputation	4 Frequent Has occurred and is known to again	3 Likely Has occurred and reasonable to expect to	2 Unlikely Has not occurred but is reasonable expect to	1 Remote Has not occurred and is not reasonable expected to
4	Major	Lost work day, restricted work days	Production stopped, equipment or facility out of service for >1-week	National Attention, DOE Inquiry, possible PAAA issues	16	12	8	4
3	Serious	Recordable Injury	Minimal damage to production, Stop Work, minimal equipment loss <1000\$	Companywide concern, brief local area attention, DOE review/concern	12	9	6	3
2	Moderate	Slight injury or health effects (self treat) or first aid	Negligible production loss, minimal damage to facilities or equipment	Localized concerns	8	6	4	2
1	Minimal	No injury or health effects not affecting work performance or causing disability	No production loss, no damage to facilities or equipment	No adverse effect on company or DOE reputation.	4	3	2	1



Guidelines for Graded Approach

- To determine the risk score in this example you would:
 - Multiply the severity rating of 1
 - By the likelihood of 2
 - For a risk Score of "2"
- So in this example there would be no reporting necessary.

Rating		Severity			Likelihood			
		People	Assets	Reputation	4 Frequent Has occurred and is known to again	3 Likely Has occurred and reasonable to expect to	2 Unlikely Has not occurred but is reasonable expect to	1 Remote Has not occurred and is not reasonable expected to
4	Major	Lost work day, restricted work days	Production stopped, equipment or facility out of service for >1-week	National Attention, DOE Inquiry, possible PAAA issues	16	12	8	4
3	Serious	Recordable Injury	Minimal damage to production, Stop Work, minimal equipment loss <1000\$	Companywide concern, brief local area attention, DOE review/concern	12	9	6	3
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1	Minimal	No injury or health effects not affecting work performance or causing disability	No production loss, no damage to facilities or equipment	No adverse effect on company or DOE reputation.	4	3	2	1



Guidelines for Graded Approach

- To determine the risk score in this example you would:
 - Multiply the severity rating of 1
 - By the likelihood of 2
 - For a risk Score of “2”
- So in this example there would be no reporting necessary.
- Obviously this process is subjective and some groups might determine a likelihood of 3 in which case a logbook entry or a database entry would be needed.

Severity					Likelihood			
Rating	People	Assets	Reputation					
				4 Frequent Has occurred and is known to again	3 Likely Has occurred and reasonable to expect to	2 Unlikely Has not occurred but is reasonable expect to	1 Remote Has not occurred and is not reasonable expected to	
4	Major	Lost work day, restricted work days	Production stopped, equipment or facility out of service for >1-week	National Attention, DOE Inquiry, possible BAAA issues	16	12	8	4
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1	Minimal	No injury or health effects not affecting work performance or causing disability	No production loss, no damage to facilities or equipment	No adverse effect on company or DOE reputation.	4	3	2	1



Guidelines for Graded Approach

Thank you for your time
and desire to help us have
a safer workplace