

4) Prioritization of Potential Corrective Actions

After completing the Threat Assessment and the Vulnerability Assessment Checklist, use the procedures below to review and prioritize the steps that can be taken to reduce your system's vulnerability. This ranking system is designed to provide a relatively simple, yet systematic, framework to aid you in establishing priorities for your activities. It involves three steps:

1. Ranking potential corrective actions identified on your vulnerability assessment checklist from Part 3 of this guide.
2. Identifying the most important potential threats to your community's wastewater system from Part 2 of this guide and listing and ranking any *additional* potential corrective actions that should be taken to address those threats. The potential corrective actions listed in this section should not include those you identified on your vulnerability assessment checklist.
3. Arriving at a final prioritization of corrective actions by creating one unified and ranked list of corrective actions to be undertaken. This involves listing all of the potential corrective actions from steps 1 and 2, determining the feasibility of each potential corrective action, and establishing dates for completion of the corrective actions you choose to undertake.

For most small communities, the approach outlined here will be adequate to rank potential corrective actions and establish appropriate priorities for needed actions. However, communities with computer capabilities and a desire to use more sophisticated ranking approaches may want to consider using the electronic Vulnerability Self Assessment Tool (VSAT) provided by the Association of Metropolitan Sewerage Agencies (AMSA).



Step 1. Ranking Potential Corrective Actions for Identified Vulnerabilities

To rank potential corrective actions for identified vulnerabilities, you should complete the three columns in the table below using the information you generated in completing the vulnerability assessment checklist in Part 3 of this guide. Rank potential corrective actions for the identified vulnerabilities by placing the information requested in each of the three columns (A, B, and C) below. The information requested for each column is as follows:

Step 2. Threat Ranking and Additional Corrective Actions

Now that you have listed your potential corrective actions for identified vulnerabilities, you should determine whether any additional corrective actions should be considered to address the most important threats facing your system. Follow this procedure:

A. List the top five threats identified in the Threat Assessment in Part 2 of this guide in order of decreasing threat ranking. For instance, if you listed “Floods” as the highest ranked threat with 25 points, list it first, followed by the second highest ranked threat and so on. You may list more than the top five threats by using the additional pages provided. If you need space for even more threats, feel free to make copies of the pages for additional threats.

B. List any additional potential corrective actions --- above and beyond those listed in Step 1 above --- that will reduce the likelihood or potential impacts of these threats if they were to occur. As in Step 1, you should list potential actions that are likely to improve the public health, the environment, and/or the community’s economic and social well-being if the identified threat were to actually occur.

C. Assign a ranking based on the extent that each potential corrective action would reduce the probability and/or potential impact of the identified threat. In assigning this ranking, once again consider the effectiveness of the potential corrective action in improving public health, the environment, and/or the community’s economic well-being. Please also use the 5 point scale shown below to rank each potential corrective action.

- 1 – Not effective;
- 2 – Minimally effective;
- 3 – Moderately effective;
- 4 – Very effective;
- 5 – Extremely effective.



Example

Threat # 1

Flooding

Ranking of Threat

25

(from Part 2)

Potential Additional Corrective Action(s)

Ranking

Test auxiliary power monthly

5

Identify sources of emergency pumps

5

Develop preventive maintenance program

4



Threat # 1

Ranking of Threat

(from Part 2)

Potential Additional Corrective Action(s)

Ranking

priorities

Threat # 2 _____

Ranking of Threat _____ (from Part 2)

Potential Additional Corrective Action(s)

Ranking

Threat # 3 _____

Ranking of Threat _____ (from Part 2)

Potential Additional Corrective Action(s)

Ranking



Threat # 4 _____

Ranking of Threat _____ (from Part 2)

Potential Additional Corrective Action(s)

Ranking

Threat # 5 _____

Ranking of Threat _____ (from Part 2)

Potential Additional Corrective Action(s)

Ranking



Space for Additional Threats

Threat _____

Ranking of Threat _____ (from Part 2)

Potential Additional Corrective Action(s)

Ranking

Threat _____

Ranking of Threat _____ (from Part 2)

Potential Additional Corrective Action(s)

Ranking



Space for Additional Threats

Threat _____

Ranking of Threat _____ (from Part 2)

Potential Additional Corrective Action(s)

Ranking

Threat _____

Ranking of Threat _____ (from Part 2)

Potential Additional Corrective Action(s)

Ranking



Step 3. Final Prioritization of Corrective Actions

In this final step of the prioritization process, you merge the two lists of potential corrective actions from steps 1 and 2 above into one prioritized ranking of corrective actions to be undertaken. Before doing this, however, it may be useful to review the potential corrective actions and rankings in steps 1 and 2 as a whole, and determine whether any adjustments to the rankings indicated are appropriate. By reviewing the list as a whole, you may find that it is appropriate to make adjustments to the rankings you originally assigned. However, only change a ranking if it will better reflect the effectiveness of that potential corrective action in reducing risks to your community's public health, environment, and economic and social well-being. Discussion and exchange among key officials in your community may also facilitate an improved ranking of the items listed.

After you have finalized your rankings, you may summarize the lists of potential corrective actions in Steps 1 and 2 by the method below:

- A. List the potential corrective actions from both Step 1 and Step 2 in order of their ranked priority in the space provided (i.e., highest ranked corrective actions followed by lower ranked corrective actions). Feel free to make additional copies of the form if you need them to list your corrective actions fully and completely.
- B. Indicate whether the corrective action is feasible for your community by circling "Y" for yes and "N" for no, and provide a reason(s) for "infeasible" determinations, where applicable. In assessing feasibility, consider whether the potential corrective action could be implemented effectively and whether the costs are acceptable to the community given the risks involved.
- C. Provide a date of completion for feasible actions that you will implement.



At the end of this process you will have a prioritized list of corrective actions, along with timetables for their completion. You will then be in a position to take positive actions to reduce the vulnerability of your wastewater system related assets and improve the security of your community. However, after implementing the corrective actions you choose, make sure that you update this analysis on at least an annual basis.

Corrective Actions (List highest ranked first)

Feasible?

If no, why infeasible?

Completion date

Small Community Example

Develop Emergency Response Plan

Y N

8/31/03

24 hour guard service at all sewer manholes

Y N

Too much \$.

N/A

Corrective Actions (List highest ranked first)

Feasible?

If no, why infeasible?

Completion date

Y N



Corrective Actions (List highest ranked first)

Corrective Actions (List highest ranked first)	Feasible?		If no, why infeasible?	Completion date
	Y	N		
_____	Y	N	_____	_____
_____	Y	N	_____	_____
_____	Y	N	_____	_____
_____	Y	N	_____	_____
_____	Y	N	_____	_____
_____	Y	N	_____	_____
_____	Y	N	_____	_____
_____	Y	N	_____	_____
_____	Y	N	_____	_____



Corrective Actions (List highest ranked first)

Corrective Actions (List highest ranked first)	Feasible?		If no, why infeasible?	Completion date
	Y	N		
_____	Y	N	_____	_____
_____	Y	N	_____	_____
_____	Y	N	_____	_____
_____	Y	N	_____	_____
_____	Y	N	_____	_____
_____	Y	N	_____	_____
_____	Y	N	_____	_____
_____	Y	N	_____	_____
_____	Y	N	_____	_____



Record of Completion

The following information should be completed by the individual(s) conducting this assessment and/or any additional revisions.

Wastewater System Name: _____ NPDES Permit #: _____

Address: _____ County: _____

City: _____ State: _____ Zip Code: _____

Telephone: _____ Fax: _____

E-mail: _____

Date Completed: _____ Signature: _____

Date Revised: _____ Signature: _____

Date Revised: _____ Signature: _____

Date Revised: _____ Signature: _____

Participants:

Name _____ Title _____

Name _____ Title _____

Name _____ Title _____

Name _____ Title _____



Attachment #1 – Emergency Contact List

Wastewater systems should adopt an emergency response plan (ERP), and review and revise it regularly. Coordinate with local first responders and your Local Emergency Planning Committee as you develop and revise your ERP.

This sample document is an “Emergency Contact List.” It is an essential part of your ERP. It contains spaces for the names and telephone numbers of people you might need to call in the event of an emergency. This is a critical document to have available to appropriate officials at all times. It gives you a quick reference to all names and telephone numbers that you need for support in the case of an emergency.

Filling out this Emergency Contact List (or another like it) should remind you to think about all the people you might need to contact in an emergency. It also may encourage you to talk to these people about what you and they would do if an emergency were to occur. Document who has copies of the ERP and this contact list in the ERP/Contact column provided.



Section#1 – System Identification

NPDES# _____ System Name _____

Town/City _____ System Telephone _____

Evening/Weekend Telephone _____ System Fax _____

Email _____ System Contact _____

Population Served _____ Number of Service Connections _____

Person responsible for maintaining this emergency contact list

Name and Title _____ Telephone _____

Section #2 – Notification/Contact Information
Local Notification List

ORGANIZATION	ERP/CONTACT LIST?	CONTACT NAME/TITLE	CONTACT #(s) (DAY)1st/ 2nd*	CONTACT #(s) (NIGHT)1st/ 2nd*	EMAIL
Fire Department					
Police Department					
FBI Field Office					
Local Health Dept.					
Primacy Agency District Office					
Local Hospital					
Local Emergency Planning Committee Contact					
Emergency Medical Services					
Poison Center					
Local Pharmacy					



*Contact Numbers may include: telephone, cellular phone, pagers, radio call numbers, as appropriate.

ORGANIZATION	ERP/CONTACT LIST?	CONTACT NAME/TITLE	CONTACT #(s) (DAY)1st/ 2nd*	CONTACT #(s) (NIGHT)1st/ 2nd*	EMAIL
Local Nursing Home					
Local Schools					
Local Prisons					
Local Government Official					
Local Hazmat Team					
Wastewater System Operator					
Neighboring Wastewater System Operator					
Downstream Drinking Water System Operator					
Other					



*Contact Numbers may include: telephone, cellular phone, pagers, radio call numbers, as appropriate.

Service/Repair Notification List

ORGANIZATION	ERP/CONTACT LIST?	CONTACT NAME/TITLE	CONTACT #(s) (DAY)1st/ 2nd*	CONTACT #(s) (NIGHT)1st/ 2nd*	EMAIL
Electrician					
Electric Utility Company					
Gas Utility Company					
Sewer Utility Company					
Telephone Utility Company					
Plumber					
Pump Specialist					
“Dig Safe” or local equivalent					
Soil Excavator/ Backhoe Operator					
Equipment Rental (Power Generators)					



*Contact Numbers may include: telephone, cellular phone, pagers, radio call numbers, as appropriate.

ORGANIZATION	ERP/CONTACT LIST?	CONTACT NAME/TITLE	CONTACT #(s) (DAY)1st/ 2nd*	CONTACT #(s) (NIGHT)1st/ 2nd*	EMAIL
Equipment Rental (Chlorinators)					
Equipment Rental (Portable Fencing)					
Equipment Repairman					
Radio/Telemetry Repair Service					
Pump Supplier					
Chemical Supplier					
Local/Regional Analytical Laboratory					
Other					



*Contact Numbers may include: telephone, cellular phone, pagers, radio call numbers, as appropriate.

State Notification List

ORGANIZATION	ERP/CONTACT LIST?	CONTACT NAME/TITLE	CONTACT #(s) (DAY)1st/ 2nd*	CONTACT #(s) (NIGHT)1st/ 2nd*	EMAIL
Dept. of Environmental Protection (or state equivalent)					
Department of Health					
Emergency Management Agency					
Hazmat Hotline					
Other					



*Contact Numbers may include: telephone, cellular phone, pagers, radio call numbers, as appropriate.

Media Notification List

ORGANIZATION	ERP/CONTACT LIST?	CONTACT NAME/TITLE	CONTACT #(s) (DAY)1st/ 2nd*	CONTACT #(s) (NIGHT)1st/ 2nd*	EMAIL
Designated Wastewater System Spokesperson					
Newspaper – Local					
Newspaper – Regional/State					
Radio					
Radio					
Radio					
Television					
Television					
Television					
Other					



*Contact Numbers may include: telephone, cellular phone, pagers, radio call numbers, as appropriate.

Section #3 – Communication and Outreach

Communication

Communications during an emergency can pose special problems. A standard response might be to call “911” for local fire and police departments, where this service is available. But what if your emergency had disrupted telephone lines and over-loaded cell phone lines? Meet with your local emergency responders and Local Emergency Planning Committee to discuss these problems. Increasingly, emergency agencies are establishing secure lines of communication with limited access. Learn how you can access those lines of communication if all others fail.

Outreach

If there is an incident that poses a threat to the community, you will need to notify the public and make public health recommendations. To do this, you need to plan:

- How will you reach all customers in the first 24 hours of an emergency?
- Appoint a media spokesperson – a single person from your wastewater system who will be authorized to make all public statements to the media.
- Make arrangements for contacting customers with information about service disruption. Be sure to include industries, nursing homes, hospitals, schools, and prisons.



Attachment #2 – Incident Report

You may use this form (or another one similar to this one) in the event your wastewater system receives a report of an incident or threat. Try to include as much information as possible. Use the following checklist to collect as much detail as possible about the nature of the incident, caller, and/or those involved.

1. Contact information of caller or other relevant individuals

Name:

Call Back Telephone Number:

Present Location:

Other (explain)

2. Wastewater System Identification

Name:

Address:

Telephone:

Manager's Name:



3. Type of Incident

Flooding

Odors

Vandalism

Suspicious Activity

Theft

Other

Describe Incident:

4. Date and Time of Incident:

5. Individual reporting the incident:

Name:

Address:

Telephone Number:

6. Call Received By (if applicable):

Name:

Address:

Telephone Number:

Date Call Received:

Time of Call:

Call Reported to:

Date/Time:



7. Action(s) Taken Following Receipt of Call:

Contact

Time

Response