Remedial Priority System
Understanding the RPS letter and Attachment

The attachment accompanying your Remedial Priority Scoring (RPS) letter does not include the RPS Scores or Category. It does provide the information that will be used as input variables by the RPS Model to calculate the final Category and outlines the process used to categorize your site. An RPS attachment for an example site has been provided, below.

The RPS category is based on the potential risk to receptors (Human and Ecological). There are two final RPS scores that were generated for each site and these can be found on page 2 of the attachment: a Final Human Health Category Score and a Final Ecological Category Score. The Human Health Category also evaluates the level of contamination at the site. There are several steps used to generate a final Category and each step has it own complexities. This guidance will only highlight the steps used to generate the RPS Category and how to interpret the attachment. More details are provided in the Basis and Background document and other supporting documentation on the web site under the 'Training and Tools' menu.

- The Human Health Score is broken down into three different media scores, which are scored separately and then summed for the final Human Health Score (at this time, the Ecological Health Score is only scored based on the ground water media). For each of these groups, the model has three input values: Receptor Media Score, Site Condition Score (SCS) and a Pathway Score. These three values are multiplied to calculate the score for each media.

    - The Receptor Media Score is based on potential receptors located near the site and the potential exposure duration. The Department uses an Extent Area, which is an approximation of the area potentially contaminated by the site, to determine the Receptor Media Score. The Department employs a Geographic Information System (GIS) methodology to calculate the receptor scores.
    - The SCS is one value that is used as a surrogate to represent the contamination present at the site. This value is based on Electronic Data in the Department's database and a default value is used if no data exists.
    - The Pathway Score is based on information provided to the Department on the Receptor Evaluation Form. The final value is evaluates if the contamination can affect the nearby receptors.

The Attachment to the RPS Letter outlines how an individual case was evaluated and the justification for the Category assigned. An explanation of this information is as follows:

Section I. Extent Areas and Flow Direction

Section I identifies the site identifiers and the locational coordinates that were used to generate the Extent Areas for the site. The location is based on NJ State Plane Coordinates.

Section II:The Human Health Class Score was calculated based on Water, Soil and Vapor media

Section A: The Water Media Score was calculated based on the following:

Ground Water (GW) Extent Area and Electronic Data: Section A describes the GW Extent Area (shape, length, and GW flow direction) that was used for this case and if the GW SCS used in the RPS Model was a default value.

The Water Media Score was calculated in the following manner

1: The six Individual Receptor Layers identified in Section A.1 were scored based on the proximity of each of the specific receptors to the GW Extent Area identified above. The Layer Scores for the six Individual Receptor were then multiplied by a GW Pathway Score (1 for an open pathway or 0 if the pathway is closed) to generate a GW Receptor Score for each of the six Layers. The pathway is defined as open or closed based on information provided in the Receptor Evaluation Form.

2: The individual Receptor Score for each of the 6 receptor layers were added together to generate a GW Receptor Score.

3: The GW SCS was calculated based on site specific GW sampling results or a default surrogate value if site specific data was not available. The calculation is very lengthy and cannot be shown on this form, but Section 2.A. identifies if a default value was used.

4: The GW Receptor Score is multiplied by the GW SCS to generate a Water Media Score.

Section B: The Soil Media Score was calculated based on the following:

Soil Extent Area and Electronic Data: Section B describes the Soil Extent Area (Type, and length if the Type is a circle) that was used for this case and if the Soil SCS used in the RPS Model was a default value.

The Soil Media Score was calculated in the following manner:

1: The three receptor layers identified in Section B.1 were scored based on the proximity of each of the specific receptors to the Soil Extent Area identified above.

2: The individual Receptor Score for the three Receptor Layers were added together to generate a Soil Receptor Score.

3: The Soil SCS was calculated based on site specific soil sampling results or a default surrogate value if site specific data was not available. The calculation is very lengthy and can not be shown on this form, but Section 2.B. identifies if a default value was used.

4: The Soil Pathway Score is based information that was provided in the Receptor Evaluation Form (1 for an open pathway or 0 if the pathway is closed).

5: The Soil Receptor Score is multiplied by the Soil SCS and the Soil Pathway Score to generate a Soil Media Score.

Section C: The Vapor Media Score was calculated based on the following:

Vapor Extent Area and Electronic Data: Section C describes the Vapor Extent Area (Buffer length) that was used for this case and if the Vapor SCS used in the RPS Model was a default value.

The Vapor Media Score was calculated in the following manner:

1: The three Receptor Layers identified in Section C.1 were scored based on the proximity of each of the specific receptors to the Vapor Extent Area identified above.

2: The individual Receptor Score for the three Receptor layers were added together to generate a Vapor Receptor Score.

3: The Vapor SCS was calculated based on site specific GW sampling results or a default surrogate value if site specific data was not available. The calculation is very lengthy and cannot be shown on this form, but Section 2.C. identifies if a default value was used.

4: The Vapor Pathway Score is based on information that was provided in the Receptor Evaluation Form (1 for an open pathway or 0 if the pathway is closed).

5: The Vapor Receptor Score is multiplied by the Vapor SCS and the Vapor Pathway Score to generate a Vapor Media Score.

Section D:

The Final Human Health Score is generated by adding together each of the three media scores generated for GW (Section A.4), soil (Section B.5) and vapor (Section C.5). The Final Human Health Score is then categorized using the Natural Breaks method to generate a Final Human Health Category.

III: The Ecological Health Class Score was calculated based on the following:

Extent Area: The GW Extent Area was used to calculate the Ecological Receptor Score. Section C describes the Extent Area (shape, length, and GW flow direction) that was used for this case.

The Ecological Receptor Health Score was calculated in the following manner:

1: The seven Receptor Layers identified in Section III were scored based on the proximity of each of the specific receptors in relationship to the GW Extent Area identified above.

2: The individual Receptor Score for each of the seven Receptor Layers were added together to generate an Ecological Receptor Sub Score.

3: The Ecological Pathway Score is based on information provided in the Receptor Evaluation Form to determine whether the pathway is open or closed (1 for an open pathway or 0 if the pathway is closed).

4: The Ecological Receptor Score is multiplied by the Ecological Pathway Score to generate a Final Ecological Category score.

5: The Final Ecological Score is then categorized using the Natural Breaks method to generate a Final Ecological Receptor Category.

For further information regarding the specifics of the RPS, please refer to the RPS Basis and Background Document. Please be advised that any correspondence provided to the Department regarding the RPS scoring of your site should include the following for reference: Preferred ID; Activity Reference Number and Case Tracking Number.

Remedial Priority System

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Section I: **Site Name:** Example Site **City / County:** _____
Case Tracking Number: _____ **Preferred ID:**_____ **Activity:** _____ **Bureau:** _____

Location: **X Coordinate:** _____ feet **Y Coordinate:** _____ feet

Section II: Human Health Class

A. Water Media Extent Area Shape: Circle Length:300 feet GW Flow: Not available Default GW SCS: No

1 *Calculate the Receptor Scores* *(Multiply each Receptor Score by the layer's Pathway Score)*

Receptor Layer	Layer Score		Pathway Score		Receptor Layer Score
Private Wells:	0	Multiply by	1	=	0
Community Wells:	452	Multiply by	1	=	452
Non-Community Wells:	0	Multiply by	1	=	0
Surface Water Intakes:	0	Multiply by	1	=	0
Water Body: (SWQS):	40	Multiply by	1	=	40
Agricultural:	0	Multiply by	1	=	+ 0

2. *Calculate the GW Receptor score* *(Add up all of the Receptor Layer Scores)*
GW Receptor Score = 492

3. *Ground Water (GW) Site Condition Score (SCS)*
GW SCS = 1.55

4. *Calculate the media score* *(Multiply the GW Receptor Score by the GW SCS)*
GW Receptor Score: 492
GW SCS x 1.55
Water Media Score = 762.6

B. Soil Media Extent Area Type: Lot/Block Default Soil SCS: Yes

1. Receptor Scores

Receptor Layer	Receptor Layer Score
Soil Exposure: Residential	651
Soil Exposure: Schools	0
Soil Exposure: Day Care	+ 375

2. Calculate the Soil Receptor score *(Add up all of the Receptor Layer Scores)*
1,026
Soil Receptor Score =

3. Soil Site Condition Score (SCS)
Soil SCS= 1.25

4. Soil Pathway
Soil Pathway Score = 1

5. Calculate the media score *(Multiply the Soil Receptor Score by the Soil SCS by the Soil Pathway Score)*
Media Sub Score: 1,026
Soil SCS: 1.25
Soil Pathway Score: x 1
Soil Media Score = 1,282.5

C. Vapor Media Vapor Buffer: 100 feet Default Vapor SCS: No

1. *Receptor Scores*

Receptor Layer	Receptor Layer Score
Vapor Exposure: Residential Soils	280
Vapor Exposure: Schools	0
Vapor Exposure: Day Care	+ 375

2. *Calculate the Vapor Receptor Score* *(Add up all of the Receptor Layer Scores)*
Vapor Receptor Score = 655

3. *Vapor Site Condition Score (SCS)*
Vapor SCS = 2.05

4. *Vapor Pathway*
Vapor Pathway Score= 1

5. Calculate the media score	*(Multiply the Vapor Receptor Score by the Vapor SCS by the vapor Pathway Score)*	
	Media Sub Score:	655
	Vapor SCS:	2.05
	Vapor Pathway:	x 1
	Vapor Media Score =	1342.8

D. Human Health Score and Category

1. Calculate the media score *(Sum up the water media score, the soil media score, and the vapor media score)*

Water Media Score:	762.6
Soil Media Score:	1282.5
Vapor Media Score:	+ 1342.8
Human Health Score =	**3,387.9**

2. Group sites into Categories

Human Health Category: 3

Section III: Ecological Health Class

Area Type: Circle Length: 300 feet GW Flow: Not available

1. Receptor Scores

Receptor Layer	Receptor Layer Score
Pinelands	0
Highlands	0
Water Body (GWQS):	10,050
Natural Heritage	0
Landscape	2,100
Wetlands	300
Salt Water Marsh	+ 0

2. *Calculate the Ecological Receptor Score* *(Add up all of the Receptor Scores)*

Ecological Receptor Score = 12,450

3. *Ecological Pathway*

Ecological Pathway Score = 1

4. *Calculate the Ecological score* *(multiply the Ecological Receptor Score by the Ecological Pathway Score)*

Ecological Receptor Score:	12,450
Ecological Pathway Score:	x 1
Ecological Score =	12,450

5. Group sites into Categories

Ecological Health Category: 1

Section IV: Submittals Received

Receptor Evaluation Form Received:

EDDs Approved: Count: 2 - 6/1/03 (Dir: 2002GW), 7/9/08 (Dir: 2008GW)
Rejected: Count: 0 -

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