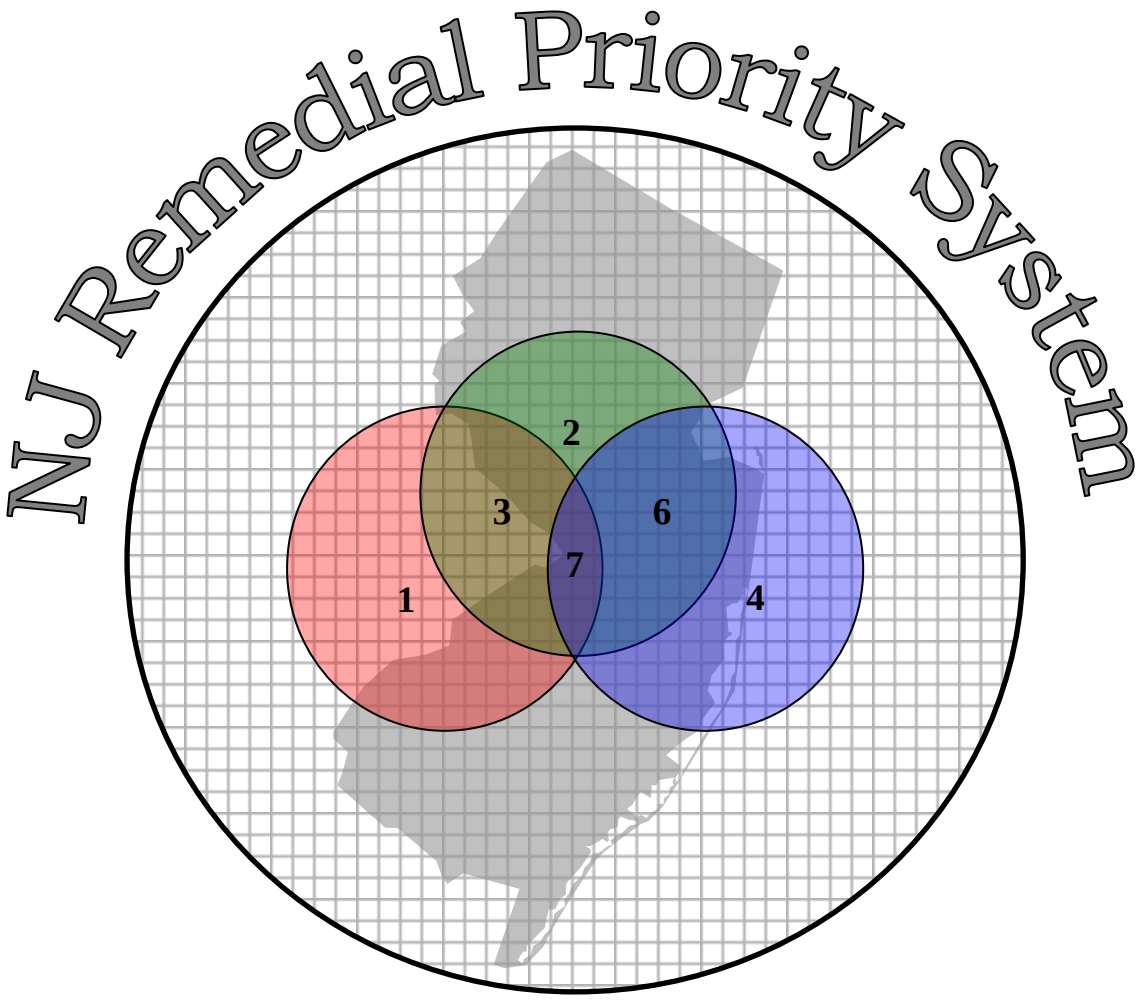
Remedial Priority System Technical Stakeholder Committee Report

September 12, 2011



The New Jersey Department of Environmental Protection

Site Remediation Program

The Remedial Priority System Technical Stakeholder Committee Report

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Executive Summary

The New Jersey Department of Environmental Protection (NJDEP) Site Remediation Program (SRP) developed an automated, data driven, relative ranking, modeling system known as the Remedial Priority System (RPS). RPS was mandated pursuant to N.J.S.A. 58:10-23.16 as amended in section 39 of P.L. 2009, c.60 which states "…the department shall establish a ranking system that establishes categories in which to rank sites based upon the level of risk to the public health, safety, or the environment, the length of time the site has been undergoing remediation, the economic impact of the contaminated site on the municipality and on surrounding property, and any other factors deemed relevant by the department." To accomplish this goal, the RPS model gathers data from different sources and creates a relative categorical ranking for approximately 11,000 of SRP's active, contaminated sites. It is important to note that not all of the contaminated sites in New Jersey are included in the process. Some sites are excluded. The exclusions are homeowner sites, unregulated heating oil tank sites, sites in long-term operations and maintenance of remedial actions such as ground water pump and treatment systems, publicly funded sites, sites that are in the process of being assigned to the appropriate remedial bureaus (i.e., Case Assignment, and Initial Notice), Child Care sites and unknown source sites.

The model utilizes multiple geographic data bases and layers, receptor information and site specific sampling data in determining a site score. Simply put, the RPS Score is equal to the Receptor Score multiplied by the Site Condition Score multiplied by a pathway value. The Receptor Score is determined by the proximity of receptors to a site. The Site Condition Score is determined by the type and extent of contaminants present at the site. Whether a pathway is "open" or "closed" determines a pathway value of one or zero respectively. This process will be run for each applicable contaminated media / pathway at the site (i.e. ground water, soil, vapor intrusion), starting by the end of 2011. In the existing version of RPS, only ground water media was reviewed.

There are currently two classes of receptors, human health and ecological health. Scores for individual receptor classes are calculated separately and will be examined separately. Many potential receptors are included within each class. The system is flexible and has been designed to allow for new receptor classes and / or site conditions to be incorporated as needed.

The advantage of an automated, data driven, computerized system is it applies a consistent, reproducible, approach using established and accepted data sources. It is designed to significantly minimize subjective human interpretations and anecdotal data inherent to more traditional ranking processes. Most importantly, it provides a product that is otherwise impossible to achieve through a slower manual process. As with all models, the RPS model is only as good as the data provided.

On May 24, 2010, SRP held a Public Hearing to explain the RPS model and the rationale behind its development. In addition, SRP formed a Stakeholder Committee, which consisted of SRP personnel and non SRP personnel of varied backgrounds and perspectives, to review current methodologies, identify potential improvements, and to discuss future developments of the system. The Stakeholder Committee had its initial meeting in September of 2010 where it was decided that three subcommittees would be formed:

- Geographic Information Systems (GIS)
- Site Sampling Data (HazSite)
- Additional Data Resources (ADR)

Each subcommittee met and had continuous dialogue over a four month period and reconvened as a whole in December 2010. At that point, each subcommittee vetted its recommendations and presented its findings to the entire Stakeholder Committee. Feedback was provided and subsequently each subcommittee reached a consensus and prepared a report of their findings and recommendations for improvement to the RPS model, which was submitted to the Site Remediation Program in March 2011. This collaborative effort enhanced the various components of the model which has led to a more comprehensive system that accurately represents the environmental characteristics of a site and its surroundings.

This improved RPS model will be ready for implementation by the end of 2011. This version of the model has incorporated most of the recommendations of the Stakeholder Committee, which will be described in more detail in the following sections of this report. The few remaining recommendations will be incorporated in future versions of the model as additional data, technology and resources become available. The improved functionality of the RPS model would not have been possible without the collaborative efforts of the RPS Stakeholder Committee. SRP thanks them for their valuable contributions.

1. Introduction / Background

The Spill Compensation and Control Act (N.J.S.A. 58:10-23.16) as amended in section 39 of P.L. 2009, c.60 of the Site Remediation Reform Act required NJDEP to develop a ranking system for all known hazardous discharge sites. In compliance with this legislation the SRP created a comprehensive model that incorporated various databases and geographic information system (GIS) layers that characterize the conditions of the site and the surrounding area, site specific analytical data, and other relevant available data to accurately reflect site conditions and receptors in the vicinity of these sites. As a result the model is made up of three technical components as follows:

- Geographic Information Systems
- HazSite Data
- Additional Data Resources

A. Geographic Information Systems

GIS is a wide variety of spatial data consisting of existing databases or layers, which include but are not limited to census data, municipal well locations, mapping of lakes, streams, wetlands, schools and other significant receptors. Additionally, new layers are derived from the existing layers. For example, "private well areas" are defined as the area outside of the "Community Public Water Purveyor" areas coinciding to residential land use areas. The significance of each dataset varies depending on its importance in determining potential human and ecological health risk. Numeric values have been assigned to each layer which represents this risk. Layers which are more sensitive to site contamination will have a greater range of values. For example, various census tracts have greater populations and therefore have a greater human health risk and a greater value.

In order to shorten the processing time required to rank SRP's sites, each layer was converted from vectors into raster layers. Each raster layer consists of a uniform grid of 100 foot by 100 foot cells. The grid covers the entire state. A value is calculated for each cell based on the values derived by each layer. The values are then added to calculate a value for the entire site.

B. HazSite Data

The site sampling data (HazSite) component of the model represents the most comprehensive source of chemical sampling data available to SRP at this time. RPS normalizes the sampling data for comparison of different chemicals by using a calculated value known as the "Exceedance Quotient" (EQ). The EQ is derived by dividing a sample concentration result by the existing standard for that contaminant. For example, a sample result of 780 ppb with a standard of 70 ppb would have an EQ of 780/70 or 11.14. The EQ would be approximately 11 times greater than its standard.

C. Additional Data Resources

Additional Data Resources is the component of the model that considers all other relevant information about a site including but not limited to:

- Activity Type – Activity Type stores remedial phase, which is used to determine if sampling data is late.
- Bureau – Bureau is used to make assumptions of site buffers via site size
- Case Status – Case Status is used to determine if a case is active, pending or closed.
- Institutional Controls - Institutional Controls are used to determine if a pathway is "open" or "closed."
- Site Coordinates – Site Coordinates are used to map the location of a site.

The above data fields are contained in Masterfile and the New Jersey Environmental Management System (NJEMS) which are the two main NJDEP databases that SRP uses to manage site data and program data respectively.

D. Calculations

The RPS model utilizes GIS, HazSite and Additional Data Resources data to calculate a final score that characterizes a receptor, a site condition and a pathway. An ecological health score is being added as a separate component in the Fall 2011 RPS version.

A key GIS layer in the RPS is the Known Contaminated Sites (KCS) layer which is also derived from Masterfile and NJEMS. The KCS layer contains the site coordinate locations needed to accurately map SRP sites. Site location determines the relationship of the site to surrounding receptors and thus determines impact. Without coordinates all spatial relationships (i.e., GIS layers) fail.

In addition to the site location, an estimate of the aerial extent of contamination is needed. Currently, a circular buffer is placed around each KCS point. The radius of the buffer is based on the typical extent of contamination identified for sites being managed by specific remedial bureaus and the professional judgment of SRP experts. The buffer is also known as the "Site Contamination Radius." In the Fall 2011 version, SRP plans to replace this rough extent with a more accurate extent of contamination.

The Receptor Score for a site is derived by "stacking up" the applicable layers, adding the cell values for each layer within the Site Condition Radius and then adding the values of all the layers.

Currently, a review of all the EQs for a site determines a "Site Condition Score. The Site Condition Score is based on a method that uses the highest and most recent EQ to represent the site. Site Condition Factors range from one through five and represent the Site Condition Scores based on score distribution (i.e., a Site Condition Score between 100 and 999 would receive a Site Condition Factor of 3; a Site Condition Score between 1000 and 9999 would receive a Site Condition Factor of 4)

The pathway between the source of contamination and potential receptors is also considered. A pathway is "closed" when any potential risk is abated. A pathway is the route taken by the contaminant from the source to the receptor. For example, a site with an institutional control would be considered as a site with a closed pathway because the route taken by the contaminant is blocked. Institutional controls may include, without limitation, structure, land, and natural resource use restrictions, well restriction areas, classification exception areas, deed notices, and declarations of environmental restrictions. (N.J.A.C. 7:26E -1.8) An open pathway is given a

value of one. A closed pathway is given a value of zero. Finally, the Receptor Score multiplied by the Site Condition Factor multiplied by the pathway value is equal to the Final RPS Score. .

Once the Final RPS Score is calculated, the value is categorized using "Jenk's natural breaks." A natural break is a data classification method designed to identify different groupings of data within the data distribution population. SRP refers to the groups as categories. The categories range from 1 to 5. Category 1 includes sites with the lowest RPS scores and Category 5 includes sites with the highest RPS scores. These categories were established to comply with N.J.S.A. 58:10-23.16.

In the Fall 2011 version, SRP plans to remove the Site Condition Factor from this calculation and replace it with just the Site Condition Score.

2. Stakeholder Process

The Stakeholder Committee had its initial meeting in September of 2010 where it was decided that three technical subcommittees would be formed: GIS, HazSite Data, and Additional Data Resources. The members of each subcommittee are listed below:

GIS SUBCOMMITTEE

Name	Affiliation
DeFina, John	NJDEP SRP (retired)
Flanagan, Gregory	Sovereign Consulting, Inc.
Held, Joann	Air Toxics Analysis Services
Huber, William	Quantitative Decisions, Inc.
Maitin, Izak	NJDEP SRP
Moore, Michael	NJDEP SRP
Norcross, Scott	URS Corporation
Reynolds, Kenneth	NJ Builders Association
Salazar, Ernie	Weston Solutions, Inc.
Towsey, David	The ELM Group

HAZSITE DATA SUBCOMMITTEE

Name	Affiliation
Alter, Benjamin	GZA GeoEnvironmental, Inc.
Cecan, Liliana	Interbrain LLC
Geary, Andy	NJDEP SRP
Kindervatter, Henry	NJDEP SRP
Lambert, Thomas	IMTT - Bayonne
Levinson, Matt	GEI Consultants
Liberman, Ken	SCIMED Consultants, LLC
McClellan, Bruce	North American Port Infra.
Toskos, Theodoros	Mactec Eng. & Consult.

ADDITIONAL DATA RESOURCES SUBCOMMITTEE

Name	Affiliation
Dougherty, William	Ground water & Environmental Services, Inc
Houser, Trevan	Land Resource Solutions
Kloo, Karen	NJDEP SRP
Libourel, Jon	Brilliant Lewis Env., Servs.
Malaniak, Charles	Matrix New World Eng.
Messina, Frank	Exxon/Mobil Environmental Services
Meyer, Eric	Birdsall Services Group
Sodano, Nick	NJDEP SRP
Vanderslice, John	Environmental Alliance, Inc.

3. Issues and Suggestions

The issues and suggestions recommended by each subcommittee are summarized below:

A. GIS Subcommittee

Summary

The GIS subcommittee reviewed the RPS for applicability of method, accuracy, and consistency of spatial data and related analysis. Primary considerations included the defensibility of the

model and effective use of data to represent real world conditions to the greatest degree possible. The group sought to identify issues, limitations in data or practices contributing to any issues, and suggested future actions to improve the RPS model. Additionally, the subcommittee considered the overall framework of applying GIS for the purpose of categorizing contaminated sites and its applicability to protecting human and ecological health as directed by legislation and rule.

Process

Five GIS subcommittee meetings were conducted over a four month period with each meeting focused on specific agenda items. Open discussion was encouraged whereby other related subjects could be discussed. Several meetings utilized handouts and / or presentations. Meetings were documented through transcription. Minutes were prepared including the issues raised and a brief narrative of participant comments. When a response was requested of SRP, the response was incorporated into the meeting minutes. The resulting document was emailed to all participants, internal and external, for review. Edits and additional items were added based on feedback resulting in an official summary which was also distributed to all participants and archived on SRP's network.

Issues and Suggestions

The following issues and suggestions were identified by the GIS subcommittee. The items were categorized in terms of version with respect to feasibility and importance. Level 1 is considered easiest to accomplish and will be incorporated into the Fall 2011 version of the RPS model. Level 2 items are to be considered for a subsequent version of the RPS model where more significant planning and development are required. Finally, Level 3 items represent important concepts that may require policy decisions, data development, or extensive research to implement. The other subcommittees did not use "levels" because all suggestions are being addressed in the Fall 2011 version.

❖ GIS suggestions

- Examine / update / build receptor layers

- Structure the GIS data for clear auditing and review. (Level 1/2)
- Have a more direct representation of population estimates. (Level 1/2)
- Improve the precision and accuracy of receptor estimates. (Level 2/3)

- Suggestions for other RPS subcommittees

  - Use worst-case model assumptions when required data is not received by SRP. (Level 1)
    - *e.g.*, conservative Site Condition Radii when detailed polygons are absent.

  - Document all assumptions, calculations, and simplifications used in the RPS to ensure clear communication (i.e., a basis and background document with updates as needed). (Level 1)

  - Consider an absolute ranking system. With the current ranking system site categories can change every time the score is recalculated. (Level 1)

  - Plan to ground-truth the RPS using representative sites across the entire spectrum. Current testing includes only a few high ranking sites. (Level 1)

  - Use polygonal representations of sources instead of points. Points require assumptions for extent of contamination. (Level 2)

  - Maintain clear distinctions between sources, pathways, and receptors within the GIS layers and modeling. (Level 2)

  - Refine the methods for computing ecological risk. (Level 2)

  - Improve the accuracy of risk calculation as follows: (Level 2)
    - The RPS has appropriate computational mechanisms to do this but its current calculation needs updating.

- Drop the "Site Condition Factor." This will allow a more equal representation of RPS scores.
- Model additional pathways, especially soils and vapor intrusion.

- Provide ample mechanisms for sites to update their data to reflect risk more accurately. (Level 2; high priority).

- Create mechanisms for LSRPs to enter and modify data. (Level 3)

- Start thinking about how to combine dissimilar elements such as human health risk, ecological risk and economic impacts. (Level 3)

- These suggestions will be included in future versions

  - Plan for richer, more complex representations of pathways (including attenuation, retardation, etc.) (Level 3)

  - Describe the amount of uncertainty associated with the RPS score calculation. (Level 3)

Conclusion

The GIS layers and functionality, in concert with NJEMS and HazSite, makes this model unique, which in turn makes the design and implementation challenging. As SRP moves forward, the RPS path will become more and more demanding. It is important for SRP and the LSRP community to meet this challenge but at the same time stay rooted in defensible practice and science. Innovation is the key.

B. HazSite Data Subcommittee

Summary

The RPS HazSite Subcommittee reviewed the processes by which sampling data are electronically checked and submitted to SRP and how these apply to the RPS model. Currently,

data are submitted via three tables, collectively known as HazSite and data quality is checked via an application known as the Electronic Data Submittal Application (EDSA).

Process

The HazSite subcommittee met four times. Six issues were identified that directly affect the RPS model. An agenda was prepared for each meeting. Minutes were also prepared, distributed for comment, finalized and archived on the SRP network.

Issues and Suggestions

The issues and suggestions are:

- Issue - Missing HazSite Data

  At this time, HazSite data are not available for all sites. Without HazSite data EQs cannot be calculated.

  Suggestions

  - Create reports that identify all sites with missing data.
  - Distribute reports to SRP case managers for review.
  - Solicit input from Responsible Parties (RPs) and their consultants after in-house review of missing HazSite data is complete.

- Issue - Inaccurate HazSite Data

  At this time, accurate HazSite data are not available for all data fields. Without accurate HazSite data an accurate EQ cannot be calculated.

  Suggestions

  - Provide resources and tools to prevent inaccurate data.
  - Improve the Electronic Data Submittal Application (i.e. fields, reference tables)
  - Update the Electronic Data Deliverable (EDD) guidance procedures
  - Enforce EDD guidance procedures

❖ Issue - EQ Calculation Method

The current "highest most recent" method uses one point in time to represent the contamination of the whole site via the contamination of one well.

Suggestion

- Query HzResults datasets for appropriate case and data
- Create a "RESULTS" table with all appropriate case data. Include all results available. Include Non-Detects (NDs) to show progress.
- Change NDs in RESULTS to one-half of the reporting limit (RL)*. Dilutions factors, if needed, are considered here and the RL is adjusted accordingly.
- Check contaminant for mobility and degradation constants and adjust associated EQs.
- Calculate EQs for each analyte in RESULTS (concentration / standard)
- Create and populate a "WELLHITS" table with EQs for each round of samples
- Determine analysis time frame (most recent sample date – 900 days (10 quarters))
    - Determine if data available is $\geq$ 4 rounds or < 4 rounds
    - If $\geq$ 4 rounds, take an EQ mean for each round.
- Calculate one average, standard deviation, sample size and 95% Upper Confidence Limit (UCL) for EQ round means
- 95% UCL equals the Final EQ
- If < 4 rounds, the highest EQ equals the Final EQ

*RL has been used interchangeably with Practical Quantitation Limit (PQL).

❖ Issue - Well Location

Most of the Known Contaminated Site (KCS) locations are at the "main building" on site. The location of the "source well" may not be nearby.

Suggestions

- All appropriate receptors must be included within the Site Condition Radius.
- The center of the Site Condition Radius should be the source well.

❖ Issue - "Footprint Shape"

A delineated plume is not usually a circle. The shape of the plume should be realistic.

Suggestions

- The shape of the "footprint" should be more elliptical and based on ground water flow.
- The ellipse should be calculated via the source well and the nearest, clean, down gradient sentinel well, where submitted data support this approach.
- If the data needed to calculate an ellipse are not available, a circular buffer around the source well should be used to represent contamination.
- If the state plane coordinates for the source well are not available, the model should revert back to the original assumption, which is a circular buffer around the site's KCS point.
- The sizes of the circular buffers are determined by the typical extents of the managing remedial bureau and best professional judgment.

❖ Issue - Well Status

The source well may be destroyed or poorly maintained.

Suggestions

- A "well permit number" field, added to the HzSample table of the EDSA submission, could be used as a unique ID link between HazSite and Well Permitting.
- Once a link is established, well status information in the Well Permitting database (NJEMS) can be pulled into HazSite via EDSA.
- Well status information could then be updated as needed.
- Limiting the data to the last 900 days of sampling will allow damaged wells to eventually "drop off" the set of wells used in EQ calculations.

Conclusion

The HazSite subcommittee suggests that obtaining and / or correcting HazSite data remain a priority for SRP. Data quality is a fundamental need for the RPS model. Missing and/or inaccurate HazSite data require in-house personnel and external party cooperation to obtain the

outstanding information. The process should be reviewed with both time and resource needs in mind.

C. Additional Data Resources Subcommittee

Summary

The Additional Data Resources (ADR) subcommittee was tasked with the review of Masterfile data, NJEMS data and any other data that contributes to the RPS model, but is not included in GIS or HazSite. Currently, data are manually entered by over one hundred different people in SRP. Consequently, data entry can be inconsistent. Data that would be helpful to the RPS model, depending on the field, are not always available.

Process

The ADR subcommittee met four times. An agenda was prepared for each meeting. Minutes were also prepared, distributed for comment, finalized and archived on the SRP network. Additional SRP personnel (Hazardous Site Science) were also consulted and attended meetings to provide their specific technical expertise. The ADR subcommittee reviewed the fields included in Masterfile and NJEMS and discussed the issues encountered while building the RPS model. This comparison identified that data quality should remain a priority for SRP. The fields with data quality issues were identified. Some additional fields which currently do not reside in NJEMS, but would be helpful to the RPS model, were also identified.

Issues and Suggestions

Some examples are:

- Existing fields
  - Contacts
  - Coordinates
  - Ground water flow
  - North American Industry Classification System
  - Receptor Survey Details
- New fields
  - A field(s) that identifies permeability

- A field(s) that identifies stratigraphy
- A field(s) that identifies contaminant pathways to receptors
- A field(s) that identifies the least permeable layer between a discharge and "Aquifer of Concern"
- A derived field(s) that enters a surrogate value for ground water flow based on topography and surface water
- A field(s) that calculates mobility for each contaminant
- A field(s) that calculates degradation for each contaminant
- A field(s) that calculates solubility for each contaminant
- All additional fields required for a "conceptual site model" design via SRP TCs, geologists and the ADR subcommittee (see "Cross Issues" below)

Conclusion

The ADR subcommittee suggests minimum data standards for Masterfile and NJEMS; enhancements that add the suggested fields noted above, which enable accurate site condition and risk calculations; and consistent data maintenance for these systems. These improvements would facilitate accurate RPS scoring and conceptual site models. An RPS "form" that LSRPs use to submit data, perhaps via email, should also be considered. More detailed information is available in Appendix C.

D. Cross Issues

Summary

Several issues were identified that "crossed" subcommittee boundaries. These issues are listed below.

Issues and Suggestions

- Soil Layer - Currently the RPS model includes only sites with ground water contamination. Ground water was chosen as the media type to focus on for the first version of RPS. Soils must now be included in order to obtain a more comprehensive prioritization list of contaminated sites. EQ methods, estimated extent of contamination and pathways must be researched and implemented.

- Vapor Intrusion - Currently the RPS model database includes only sites with ground water contamination. Vapor intrusion has become an integral piece of site remediation and must be included in the RPS model. EQ methods, estimated extent of vapors and pathways must be researched and implemented.

- Ecological Health Layers – Available ecological layers (i.e. pinelands, highlands, endangered and threatened species habitats) can be used to determine ecological "risk" in the RPS model. The process is similar to the human health risk process. Cell receptor values, site condition calculations and pathways must be researched and implemented.

- The ongoing use of "Jenk's Breaks," to calculate the RPS category, results in a constantly changing category range for the site scores. This may cause confusion. A fixed range for each category would provide clarity and allow NJDEP to measure progress over time.

- The RPS model must have a communications plan. Clear and concise communications with the affected stakeholders, regulated community and the public on the RPS model is crucial. Effective communications with the regulated community should explain the purpose of the RPS model, including the process, the RPS score and rank, the categories, data limitations, goals, and how the RPS score affects compliance issues and SRRA oversight decisions. Effective communications with the public is equally important. The public must understand that a RP, who is in compliance with all SRP regulations, may also have a high RPS score. The plan should include consistent communications via a list-server, a web page, RP and LSRP training. The model should include a feedback mechanism which would enable LSRPs to challenge and/or correct RPS model data. (see "e. Policy Issues" below)

- RPs that are in or not in compliance should be "flagged" as such.

- ❖ Design changes and data assumptions should not be implemented without peer review. Written updates and explanations should be posted on the SRP website. Stakeholders should be given time to comment prior to implementation.

- ❖ The RPS model uses default assumptions when required data are missing. Development of Conceptual Site Model (CSM) fields within the NJEMS databases will result in improved site scores and remedial prioritization decisions.

- ❖ SRP should pursue the "regulatory services portal" and enable LSRPs to submit all required data directly into the portal.

- ❖ HazSite data should link to NJEMS subject items, so data relevant to HazSite data cleanup (i.e. is the site active or closed) can be easily accessed.

- ❖ RPS should take background data into consideration when calculating EQs.

E. Policy Issues

Summary

A Policy Stakeholder Committee was formed to address external perception issues concerning the use and implementation of the RPS with the regulated community, municipalities and the public. The Policy Stakeholder Committee will also assist in the development of other communication initiatives to help spread the word about the RPS and its impact. The Policy Committee will provide feedback to SRP on its Communication Plan to effectively communicate the following:

- *Purpose vs. Perception* of the RPS model
- How RPS will be utilized by the SRP
- Implementation of RPS
- Where to find information about RPS
- Who to contact with questions regarding RPS

Process

In order to meet the objectives stated above SRP selected individuals whose background and experience would provide the needed expertise to assist SRP in its outreach initiatives relative to RPS. The Policy Stakeholder Committee members are:

Name	Affiliation
Kelly Henry	Ross Public Affairs Group
Tony Russo	Site Remediation Industry Network
David Restaino	Fox Rothschild
Elizabeth George Cheniara	NJ Builders Association
Sara Bluhm	NJ Business and Industry Association
Michael Pisauro	Michael L. Pisauro, Jr. LLC
George Klein	NJDEP SRP (Chair)
Karen Ricciardi	NJDEP SRP
Karen Kloo	NJDEP SRP
Barry Frasco	NJDEP SRP
Don Cramer	NJDEP SRP

The Policy Stakeholder Committee met on April 12, 2011. In his opening remarks, Assistant Commissioner Sweeney provided the overall mission and rationale of RPS and stated objectives of the Policy Stakeholder Committee. George Klein, Assistant Director and Chairman of this Committee, provided an overview of the RPS Technical Stakeholder Committee and the results of their many months of work. The Policy Stakeholder Committee will meet every 2 weeks over the next several months to develop the appropriate materials to meet the stated objectives outlined above.

4. SRP Response to the Subcommittees' Suggestions

GIS

SRP Response - All Level 1 and Level 2 suggestions are currently being worked on and will be included in the Fall 2011 rollout. The status of the Level 3 suggestions is as follows:

- Create mechanisms for LSRPs to enter and modify data.

  SRP Response - NJDEP has a remedial services portal in operation on the NJDEP web site. SRP has plans to add functionality to the portal that will enable LSRPs to submit data to SRP, directly through the portal. This action requires outside assistance from a software developer. Meetings with a software developer are planned for late spring 2011

- Start thinking about how to combine dissimilar elements such as human health risk, ecological risk and economic impacts.

  SRP Response – Ecological layers that represent ecological risk will be included in the Fall 2011rollout. The resulting ecological risk score will not be combined with the human health risk score. The ecological risk score will be a separate 'standalone' score. Discussions are ongoing with regard to economic impact and the types and categories of information that should be assembled for inclusion into the model. In addition, a mechanism to incorporate these various indicators into the model needs to be developed as it currently does not exist.

- Plan for a richer, more complex representations of pathways (including attenuation, retardation, etc.)

  SRP Response - Improvements to how pathways are 'turned off and on' will be discussed in future versions.

- Describe the amount of uncertainty associated with the RPS score calculation.

  SRP Response – Statisticians often apply confidence intervals to convey the degree of uncertainty associated with sample estimates being applied to entire populations.

  This objective will be considered after further development of the model. Each dataset and the analysis performed introduce some level of uncertainty. This is especially true

where surrogate values are considered in lieu of actual data. A 95% upper confidence limit (UCL) will be built into the Fall 2011 version of the EQ calculation method. However, quantifying the limits of accuracy for the whole RPS model must be contemplated after development of core-functionality. At that time cost and benefit must weighed.

HazSite Data

SRP Response – All HazSite Data suggestions will be incorporated into the Fall 2011 version.

- Missing HazSite Data - HazSite data are not available for all sites. Without HazSite data a site specific EQ cannot be calculated.

  SRP Response – Reports detailing missing data have been completed. Distributions of the reports and data collection are underway.

- Inaccurate HazSite Data - Accurate HazSite data are not available for all data fields. Without accurate HazSite data an accurate EQ cannot be calculated.

  SRP Response – Planned improvements to the Electronic Data Submittal Application (EDSA 7) are underway. Spatial tools that can be used to check accuracy of site coordinates have been completed.

- EQ Calculation Method - The current "highest most recent" method uses one point in time to represent the contamination of the whole site via the contamination of one well.

  SRP Response – A revised EQ calculation method for ground water is complete. Additional refinements may be needed to improve the accuracy of the site score. New EQ methods for soils and vapor intrusion (if needed) are underway.

- Well Location - The location of the source well may not be nearby.

SRP Response - The new EQ calculation method includes the source well as the center of the Site Contamination Radius or ellipse, when the required coordinates are available. This action will ensure that all appropriate receptors are included in the RPS score calculations.

- "Footprint Shape" - A delineated plume is not usually a circle. The shape of the plume should be realistic.

  SRP Response - All planned footprints (ellipse, source well buffer and KCS circular buffer) are being programmed into the RPS model.

- Well Status - The original source well may be destroyed or poorly maintained.

  SRP Response - The programming of a unique link between Well Permitting and HazSite via the well permit number is underway.

Additional Data Resources

SRP Response – The SRP minimum data standards (MDS) spreadsheet has been updated and is being distributed, with instructions, to all SRP staff responsible for data entry. This program-wide effort to improve Masterfile and NJEMS data quality is the first step in a multi-step data improvement strategy.

In addition, selected SRP staff will review the list of new fields suggested by the ADR subcommittee and determine their feasibility. This task is planned for completion in late April 2011.

Once this task is completed, SRP will plan to have the appropriate data fields incorporated into the Masterfile and NJEMS program. This action requires outside assistance from a software developer. Meetings with a software developer are planned for late Spring 2011.

Cross Issues

SRP Response – Most Cross Issue suggestions, including soils and vapor intrusion, are being implemented in the Fall 2011 rollout. The exceptions are:

- SRP should pursue the "regulatory services portal" and enable LSRPs to submit all required data directly into the portal.

  SRP Response - NJDEP has a remedial services portal in operation on the NJDEP web site. SRP has plans to add functionality to the portal that will enable LSRPs to submit data to SRP, directly through the portal. This action requires outside assistance from a software developer. Meetings with a software developer are planned for late Spring 2011. An aggressive development schedule is planned and it is anticipated this function will be ready for full implementation in Spring 2012.

- HazSite data should link to NJEMS subject items, so data relevant to HazSite data cleanup (i.e. is the site active or closed) can be easily accessed.

  SRP Response - NJDEP has a remedial services portal in operation on the NJDEP web site. SRP has plans to add functionality to the portal that will enable a NJEMS link to HazSite via the LSRP's data submittal. This action requires outside assistance from a software developer. Meetings with a software developer are planned for late Spring 2011. An aggressive development schedule is planned and it is anticipated this function will be ready for full implementation in Spring 2012.

- RPS should take background data into consideration when calculating EQs.

  SRP Response – The creation of multiple GIS layers would be needed for this suggestion. Possible implementation in a future version requires additional discussion.

D. Conclusion

An aggressive schedule has been developed to facilitate implementation of the issues and suggestions listed. Many will be included in the model scheduled for rollout in Fall 2011. The more robust functionality of the model will be tested, using Category 3 through 5 site data, in late May. Data review of category 1 and 2 sites will follow.

There are many challenges inherent to RPS such as data quality and the analysis and integration of soil and vapor intrusion data. While the use of GIS and electronic data are extremely powerful, allowing rapid prioritization of sites, it is also a new approach with few precedents at this scale. As data quality is improved and data analysis techniques are developed, the RPS model will evolve. As a result, the goal of the RPS model, the ability to consistently and electronically prioritize contaminated sites with limited manual intervention, will be met.

Acknowledgements

The Partnership between SRP and the external Stakeholder Committees was extremely productive and beneficial. The insight and advice received validated SRP's premise of the model and ensured that the product, which will be introduced by the end of 2011, as well as future versions, will meet the stated goals of SRP and the legislature. SRP would like to thank all of the experts that served on the RPS Stakeholder Committees for their participation and dedication.

Appendix A

Stakeholders Subcommittee Report: The RPS GIS Subcommittee

DeFina, John	SRP (retired)
Flanagan, Gregory	Sovereign Consulting, Inc.
Held, Joann	Air Toxics Analysis Services
Huber, William	Quantitative Decisions, Inc.
Norcross, Scott	URS Corporation
Reynolds, Kenneth	NJ Builders Association
Salazar, Ernie	Weston Solutions, Inc.
Towsey, David	The ELM Group
Maitin, Izak	NJDEP SRP
Moore, Michael	NJDEP SRP

February 2011

Stakeholder Issues and Suggestion – GIS Subcommittee

Summary

The Geographic Information Systems (GIS) subcommittee reviewed RPS for applicability of method, accuracy, and consistency of spatial data and related analysis. Primary considerations included the defensibility of the model and effective use of data to represent real world conditions to the greatest degree possible. The group sought to identify failings, limitations in data or practices contributing to any failings, and suggested future actions to improve the RPS model. Additionally, the subcommittee considered the overall framework of applying GIS for the purpose of categorizing contaminated sites and its applicability to protecting human and ecological health as directed by legislation and rule.

Process

Five meetings were conducted over a four month period. Each meeting was focused on specific agenda items. However, open discussion was encouraged whereby other related subjects could be discussed. Several meetings utilized handouts and / or presentations. Meetings were documented through transcription. Minutes were prepared including the issues raised and a brief narrative of participant comments. Any responses provided by SRP were also incorporated into the meeting summary. The resulting document was transmitted to all participants, internal and external, for review. Edits and additional items were added based on feedback resulting in an official summary which also was distributed to all participants and archived on SRP's network.

The GIS subcommittee participated in one large inter-group meeting to present their findings on Dec 17, 2010. The ideas and suggestions described in this report are the result of that meeting.

Issues/Suggestions

The following issues and suggestions were identified by the GIS subcommittee. The items were categorized in terms of version with respect to feasibility and importance. Level 1 is considered easiest to accomplish where timeframe is restrictive. Level 2 items are to be considered for a subsequent version of the RPS model where more significant planning and development are required. Finally, Level 3 items represent important concepts that may require policy decisions, data development, or extensive research to implement. It is recognized this final tier will be difficult and potentially impossible to achieve.

- Compute risk using conventional, standard approaches. (Level 2)
  - The RPS has appropriate computational mechanisms to do this but its current calculation violates fundamental principles.
  - Drop the "threat factor" tiers!
  - Model additional pathways, especially soils and vapor intrusion.

- Structure the GIS data for clear auditing and review. (Level 1/2)
  - *E.g.,* have a more direct representation of population estimates.

- Use worst-case assumptions for missing data that should not be missing. (Level 1)
  - *E.g.,* conservative threat radii when detailed polygons are absent.

- Use polygonal representations of sources. (Level 2)

- Provide ample mechanisms for sites to update their data to reflect risk more accurately. (Level 2; high priority).

- Create mechanisms for LSRPs to enter and modify data. (Level 3)

- Maintain clear distinctions between sources, pathways, and receptors within the GIS layers and modeling. (Level 2)

- Improve the precision and accuracy of receptor estimates. (Level 2/3)

- Plan for richer, more complex representations of pathways (including attenuation, retardation, etc.) (Level 3)

- Refine the methods for computing ecological risk. (Level 2)

- Quantify uncertainty. (Level 3)

- Document all assumptions, calculations, and simplifications used in the RPS. (Level 1)

- Start thinking about how to combine incommensurable elements: HH risk, eco risk, economic impacts. (Level 3: policy issues)

- Consider an absolute ranking system. (Level 1)

- Plan to ground-truth the RPS using representative sites across the entire spectrum. (Level 1)

Conclusion

The GIS layers and functionality, in concert with NJEMS and HazSite, makes this model unique, which in turn makes the design and implementation challenging. As SRP moves forward, the RPS path will become more and more demanding. It is important for SRP and the LSRP community to meet this challenge but at the same stayed rooted in defensible practice and science. Innovation is the key.

Appendix B

Stakeholders Subcommittee Report: The RPS HazSite Subcommittee

Benjamin Alter	GZA Consultants
Liliana Cecan	Interbrain LLC
Thomas Lambert	IMTT Bayonne
Ken Leiberman	Scimed Consultants
Matt Levinson	GEI Consultants
Bruce McClellan	NAP Infrastructure
Brett Millburn	Langan
Ted Toskos	Mactec
Andy Geary	Co-Chair, NJDEP SRP
Henry Kindervatter	Co-Chair, NJDEP SRP

January 2011

Summary

The RPS HazSite Subcommittee reviewed the processes by which sampling data are electronically checked and submitted in the Site Remediation Program and how these apply to the RPS model. Currently, the data are submitted via three tables, collectively known as HazSite and data quality is checked via an application known as the Electronic Data Submittal Application (EDSA). Other data vehicles are used to submit data (i.e. LIMS) but these processes were not reviewed.

Process

Several issues were identified that directly affect the RPS model. The group prioritized the issues and selected six to focus on.

The issues and suggestions are:

- Issue - Missing HazSite Data
  HazSite data are not available for most sites. Without HazSite data an EQ cannot be calculated.

  Suggestions
  - Create reports that identify all sites with missing data.
  - Distribute reports to SRP case managers for review.
  - Solicit input from RPs and their consultants after in-house review of missing data.

- Issue - Inaccurate HazSite Data
  Accurate HazSite data are not available for most sites. Without accurate HazSite data an accurate EQ cannot be calculated.

  Suggestions
  - Provide resources and tools to prevent inaccurate data.

- Improve Electronic Data Submittal Application (i.e., fields, reference tables)
- Update Electronic Data Deliverable (EDD) guidance procedures
- Enforce EDD guidance procedures

- Issue - EQ Calculation Method

  The current "highest most recent" method uses one point in time to represent the contamination of the whole site via the contamination of one well.

  Suggestions

  - Include a factor for each contaminant based on density and mobility.
  - Take an average of the most recent round and the three previous rounds when the data are available.
  - Calculate an EQ for each well and each constituent using the log average of the data collected for the past two (2) years.
  - Select the highest EQ to represent the site.
  - Estimate the average EQ from all the site wells (i.e. average of averages). Use a 95% UCL. Include degradation.

- Issue - Well Location

  Most of the Known Contaminated Site (KCS) locations are at the "main building" on site. The location of the Max EQ may not be nearby.

  Suggestions

  - All appropriate receptors must be included within the site threat radius.
  - The center of the site threat radius should be the Max EQ well.

- Issue - "Footprint Shape"

  A delineated plume is not usually a circle. The shape of the plume should be realistic.

  Suggestions

  - The shape of the "footprint" should be more elliptical.

- The ellipse should be calculated via the source well and the nearest, clean, down gradient sentinel well, where submitted data support this approach.
- If the data needed to calculate an ellipse is not available, a circular buffer will be used to represent contamination.
- If the state plane coordinates for the source well are not available, the model will revert back to the original assumption, which is a circular buffer around the site's KCS point.
- The sizes of the circular buffers are determined by the typical extents of the managing remedial bureau and best professional judgment.

- Issue - Well Status

  The original source well may be destroyed or poorly maintained.

  Suggestions

  - A "well permit number" field, found in the HzSample table of the EDSA submission, could be used as a unique ID link between HazSite and Well Permitting.
  - Once a link is established, well status information in the Well Permitting database (NJEMS) can be pulled into HazSite via EDSA.

Conclusion

The subcommittee agreed that missing and / or inaccurate HazSite data poses the greatest problem when calculating a Site Contamination Score. Without accurate data, the other HazSite subcommittee issues listed above can not be fully completed. These two issues and the associated suggestions should be analyzed for time and resources.

Appendix C

Remedial Priority System Stakeholders Group Additional Data Resources Subcommittee Final Report

William Dougherty	Ground water & Environmental Services, Inc.
Trevan Houser	Land Resource Solutions, LLC
Jon Libourel	Brilliant Environmental Services
Charles Malaniak	Matrix New World Engineering
Frank Messina	Exxon/Mobil Environmental Services
Eric Meyer	Birdsall Services Group
John Vanderslice	Environmental Alliance, Inc.

Karen Kloo	Facilitator, NJDEP SRP
Nick Sodano	Chair, NJDEP SRP

March 2011

Introduction

This report has been prepared by the Additional Data Resources (ADR) Subcommittee of the Remedial Priority System Stakeholder Group, whose task is to evaluate the existing RPS and input databases, and provide recommendations on system modifications to improve performance. This report provides the results of the evaluation of the existing Remedial Priority System and suggested system amendments. The report is organized with this Introduction section; an Executive Summary; a Detailed Narrative; Conclusions and Recommendations; and Tables which provide specific information on the subcommittee discussions, information evaluation process, and recommendations.

The ADR Subcommittee presented its findings to the entire RPS Stakeholder Group in December 2010 (See **Table A**). The Subcommittee suggests that prior to implementation of any recommendations contained herein, any system modifications be coordinated and reconciled with suggestions made by other RPS Subcommittees and other Stakeholder Groups, as appropriate.

Executive Summary

The NJDEP recognizes the need for modification to the existing Remedial Priority System (RPS) in order to more accurately assess threat from contaminated sites within the state and prioritize remedial decision-making. To achieve reasonable goals of the RPS, databases currently used by the NJDEP to calculate RPS ranks require maintenance and population with Minimum Data Standards (MDS) to allow development of a Conceptual Site Model (CSM) from site specific data. It is suggested that policy clarifications regarding RPS roll-out and use will create strong incentives for the regulated community to update SRP databases and thereby improve RPS performance.

The existing NJDEP databases (Masterfile, NJEMS, and HazSite) are the foundation of the RPS. These NJDEP databases are inconsistently maintained and the current databases are not robust enough to support the goals of the RPS. Short-term modifications to the RPS and databases is recommended to allow for initial score calculation to achieve legislative mandate. These short-term modifications can include data delivery via electronic mail using a NJDEP-developed spreadsheet or other suitable format. Ultimately, routine RPS updates should be provided via a password-protected internet-based portal for direct data input by LSRPs and/or responsible parties.

In addition to overcoming technical challenges for RPS upgrades as discussed above, effective public communication regarding RPS policies is needed to avoid misunderstandings that could cause unnecessary conflicts between financial institutions, the regulated community, the public, and SRP. Finally, adequate resources must be made available to NJDEP to effectuate the upgrades to the RPS.

Detailed Narrative

Existing RPS and Databases: The NJDEP has been developing the Remedial Priority System (RPS) for several years and NJDEP is committed to implementation of the system for remedial decision-making prioritization. The existing RPS utilizes NJDEP-maintained databases for input data to calculate a score for contaminated sites, which is related to the threat or risk posed by a particular site. The NJDEP recognizes the need for modification to the existing (RPS) in order to more accurately assess threat from contaminated sites and accurately prioritize remedial decision-making. The existing databases require additional data input and routine updating of site specific data in order to develop an accurate conceptual site model for site scoring. The Additional Data Resources (ADR) Subcommittee was tasked with identifying potential system improvements and additional data needs and sources for system enhancement.

Building the Conceptual Site Model: In the absence of specific up-to-date data in the NJDEP databases (NJEMS and HazSite), the RPS uses default assumptions regarding threat posed by contaminated sites in RPS score calculation. The use of default values results in conservative scores and inaccurate ranking of sites. The NJDEP databases are inconsistently maintained and the current databases are not robust enough to support the goals of the RPS. Databases require additional data fields and routine population with site-specific data to reduce the use of default values. Developing a Conceptual Site Model (CSM) within the databases will result in more accurate individual site scores and thus better remedial decision-making prioritization.

In order to reduce the use of default values in RPS rank calculation, the ADR Subcommittee suggests that NJDEP adopt Minimum Data Standards (MDS) for the databases. When the databases are properly populated with site-specific MDS data, the ranking within the RPS will provide a more accurate assessment of site threat/risk. A list of potential MDS fields for the databases is provided in the Table. In many cases, the data required for input into the MDS exist at NJDEP, but have not been input into the necessary databases. When MDS for a

given site are not used in score calculation, the ADR Subcommittee recommends the use of a flag next to the site ranking to indicate default values were used.

As a first step in populating NJDEP databases with the MDS, the ADR Subcommittee suggests an evaluation of the existing databases to determine which MDS fields are missing from the databases, and which simply require data input. Any missing fields should be added to the databases (not a small task) and an efficient mechanism for data input determined. Communication with stakeholders on the use of RPS ranks should be performed in a manner to best incentivize all parties, to ensure data are properly input into the databases. Adequate resource allocation and implementation of interim measures to manage incoming data at NJDEP is critical.

Communicating RPS: It was generally agreed by the ADR Subcommittee, that NJDEP does not currently have sufficient resources to modify the databases and ensure input of all required MDS data in a reasonable timeframe. Proper communication to responsible parties is suggested to eliminate misunderstandings of rank use and to incentivize data input by these entities. **Table B** identifies policy considerations that need prominent and consistent communications by the NJDEP in order to make clear how RPS ranks will be used by NJDEP. We strongly suggest that NJDEP be deliberative in preparing and launching its communication campaign for the RPS. Stakeholder input on the policy issues is also suggested.

Conclusions and Recommendations

The NJDEP is obligated to implement a ranking system for remedial decision-making prioritization. The NJDEP has been developing the RPS for many years and is committed to its final implementation. RPS represents a watershed event in the development of automated tools to help the NJDEP and its LSRP partners manage the caseload of contaminated sites in New Jersey. Upgrades to the system are necessary to more accurately calculate site threat or risk and rank sites accordingly. NJDEP databases require maintenance and upgrading to develop conceptual site models using site-specific data, where feasible. Prior to direct access for data input being available, short-term data delivery and input mechanisms should be used. Proper communication to the regulated community is suggested to encourage system maintenance and reduce costs. Availability of adequate resources to NJDEP is essential to achieve these recommendations. See attached Tables for additional information.

Table A

RPS Stakeholder Group: Other Data Resources Subcommittee
12-17-2010 General Meeting Summary

General Issue	Example(s)	Short-term Recommendations	Long-term Goal / Solution
1. RPS Score Calculation	➢ Data Limitations / CSM • GW Flow Direction • Site Location – Site/AOC • Fields not identified • Data Input Method • Site Threat Radius Calc. • Default Values/Statistics • NFA Field / AOC • Mobility – Soil Data • NJEMS/HAZSITE Linkages ➢ Need MDS for CSM	1. Communicate draft scores to RPs of record. 2. Incentivize RPs to update data / provide mechanism for data update (i.e. – "Form, GIS, etc") by RP or NJDEP. 3. Set minimum data standards (MDS)[A] for CSM and modify selected database to accommodate data from selected mechanism (i.e. – "Form, GIS, etc"). 4. Get databases updated to allow meaningful RPS score calculation. 5. Use flags where MDS are not met.	Fully updated and maintained databases that allow accurate threat assessment. Web portal with direct LSRP access for data input and certification
2. **Policy**	➢ Rank perception – Use ➢ RP Communication ➢ **Default = Draft** ➢ "Compliance" Flag ➢ Rank Updating / Time ➢ Relative Rank System – Changes ➢ Non-typical sites/Variances ➢	6. Develop a Policy Document that clearly outlines the process and end goal of the RPS. This Document should recognize the Data Limitations, emphasize that the RPS is one of several tools to be used by the NJDEP, and state the NJDEP's desire to work with the RPs to ensure the most accurate score is obtained. 7. For sites in Regulatory compliance, or large complex sites, a notification needs to be added to the RPS score (e.g. asterisk, or the statement "in compliance").	Clearly defined use of score/rank and proper communication of same. Process for updating / dissemination.

Note(s): Continuation with the stakeholder meetings is recommended to develop the necessary data.

Table B

RPS Stakeholder Group - ADR Subcommittee							
Issue Domain	**Issue Group**	**Specific Issue**	**Problem**	**Interim Correction Measure**	**Interim Deadline**	**Final Correction Measure**	**Final Deadline**
Data Limitations	Conceptual Site Model	GW Flow Direction	NJEMS Not Fully Populated	RPS Form for LSRP certification, Access Score "form" to record challenges with Spreadsheet and GIS support sent via email.	Aug-11	Portal with Login by LSRP to accomplish same end	Jun-12
Data Limitations	Conceptual Site Model	Site Location Inaccurate	Site Location must be defined and a standard measure location used.	Define Site Location. RPS Form for LSRP certification, Access Score "form" to update database with Spreadsheet and GIS support sent via email.	Aug-11	Portal with Login by LSRP to accomplish same end	Dec-11
Data Limitations	Conceptual Site Model	Fields not defined	MDS fields must be designated and incorporated into NJEMS and/or HAZSITE	Stakeholder Group should suggest the needed MDS fields	Aug-11	MDS fields into NJEMS/HAZSITE	Dec-11
Data Limitations	Data Receipt	Input of Data	Portal and Policy call to allow update of NJEMS by LSRP (or their reps) are needed.	Policy Call	Aug-11	Portal with Login by LSRP to provide data.	Jun-12
Data Limitations	Default Values	Misunderstanding by Public & Institutions (Banks etc) regarding RPS ranks	Public & Institutions are not aware of the frequent use of defaults on some sites	Prominent Flag indicating Rank used "Default" data.	Aug-11	Portal with Login by LSRP to provide data.	Jun-12
Data Limitations	Default Values	None	Default values tend to misrepresent actual site conditions	RPS Form for LSRP certification, Access Score "form" to update database with Spreadsheet and GIS support sent via email.	Aug-11	Portal with Login by LSRP to accomplish same end	Jun-12

Table B

Model	Rank Method	Jenk's Natural Breaks	Use of Jenk's for each RPS update makes it possible that a site rank can change based on score changes at other sites. This causes uncertainty, misunderstanding and unnecessary conflict.	Go to a fixed interval Rank Method, using worst case to establish top rank that doesn't move.	Aug-11	Same as Interim	Aug-11
Policy	Perception of Rank	Variances from Rules	Public & Institutions are not aware of Compliant Sites which have Variance from Tech Rules, such as RI not complete, but NJDEP has agreed that it does not need to be completed for Technical Reasons	Prominent Flag indicating Rank has Variance from Rules (this is a variation of Compliant Flag.	Aug-11	Same as Interim	Aug-11
Policy	Draft Ranks	Do not public Draft Ranks until RP has been allowed to view and challenge score.	Model assumptions (i.e., "Default" values, wrong data i.e., incomplete HazSite) and model designs should not be published without peer review.	Private written communication of rank details, noting prominently the State's desire to work with RP to get the score right using electronic tools, but with deadline to respond. This is fair while incentivizing RP to update RPS so Rank is accurate.	Aug-11	Same as Interim	
Policy	Use of RPS	Intentions for use of RPS Rank uncertain	Uncertainty regarding use of RPS causes Stakeholders to assume worst intentions and apply harsh scrutiny.	Provide written assurances on NJDEP website regarding various policy issues surrounding RPS, such as, recognize the Data Limitations, emphasize that the RPS is one of several tools to be used by the NJDEP	ASAP	Same as Interim	

Table B

Policy	Perception of Rank	Misunderstanding by Public & Institutions (Banks etc) regarding RPS ranks	Possible misunderstanding amongst the public & in Institutions regarding meaning of RPS ranks causes Stakeholders to assume worst outcomes and apply harsh scrutiny.	Produce video (like GIS webpage training segments) plus written policy statements regarding the meaning of Ranks, their appropriate use, explaining Rank limitations, and the desire of NJDEP to work collaboratively to achieve the most realistic score possible.	ASAP	Same as Interim	
Policy	Perception of Rank	Rank devoid of Compliance Info gives wrong impression to public & Institutions	Where Rank is high, but RP is complying with Rules, public have no way to understand that they are protected by compliance unless ranks have a flag to indicate compliance.	Prominent Compliance Flag with Rank.	Aug-11	Same as Interim	Aug-11
Policy	Perception of Rank	Time interval between Rank challenge score and NJDEP updating Rank	Where Rank is incorrect and RP has provided correcting info, public & Institutions have no way to understand that rank has been challenged.	Update Ranks frequently to show Challenge Flag.	ASAP	Process challenges monthly.	ASAP