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06 September 1995

Mr. Tim O'Rourke
Rocky Mountain Remediation Services
P.O. Box 464
Golden, Colorado 80402-0464

Dear Tim:

Provided for your review and comment is an executive summary of the strategy meeting conducted 28 August 1995 at Interlocken. If you have any questions or comments, please contact me at 620-8428.

Best Regards,
JACOBS ENGINEERING GROUP INC.

Art Hirsch
Project Manager-Industrial Area Strategy Study

cc: J. Hopkins
B. Peterman
T. Jehn-Dellaport
S. Stiger

1 OF 7

1/7

Industrial Area Strategy Study Meeting
28 August 1995

The purpose of this summary is to provide a synopsis of the brain storming session conducted on 28 August 1995 between Jacobs and RMRS representatives. The ideas presented in this summary are a preliminary first step towards achieving an overall strategy. The development of the IA strategy is an evolving process as more information is acquired, therefore these concepts are subject to change. A summary of the 28 August 1995 meeting was developed by Tim O'Rourke and is provided as an attachment to this summary.

Critical to reaching the goals set forth in the Department of Energy's Interim End State Project Work Plan is a complete re-evaluation of the environmental restoration strategy for the Industrial Area. It is expected that the Rocky Flats Environmental Technology Site (RFETS) will have an operating budget of $50M/year by the year 2003. To address the "Interim End State" objective, political, financial and technical resources will need to be coordinated according to well defined and achievable strategies.

The strategy for the Industrial Area could be based upon the following objectives

1. The IA strategy should support the Interim End State
2. The IA activities should achieve risk reduction, and it must be protective of the environment and public health.
3. The focus of the IA strategy should be on source removals
4. Sufficient characterization data may be needed to identify, understand and prioritize risks.
5. The strategy should support and enhance Pu stabilization and consolidation activities, including D&D.
6. D&D and clean up should be fully integrated whenever possible and parallel paths should be identified.
7. The IA strategy should include activities to control risk in areas where risk reduction activities are not available for logistical reasons.
8. The IA strategy should be structured within reasonable financial bounds.
9. The IA strategy should support the final end state when appropriate and economically feasible.
10. The strategy needs to fully identify barriers and data gaps that may impact the ability to achieve other objectives.

The Jacobs approach will be to develop an environmental restoration strategy for the Industrial Area that will be new and innovative, while incorporating consistent ideas and strategies previously developed for the Industrial Area. As currently envisioned by Jacobs, the development of the strategic approach involves a 4 step process:

1. Develop a set of working assumptions for the strategy. This will include critical areas such as the future land use, regulatory agency cooperation, and consistency with the RFCA.
2. Develop an accelerated environmental restoration strategy that will complement the projects objectives. This strategy will address the risk drivers for the IA.
3. Identify the political, financial, logistical or physical barriers that will affect the implementation of the strategy.
4. Develop strategies to reduce or eliminate the barriers. If necessary modify the environmental restoration approach to address critical, unchangeable barriers.

The accelerated environmental restoration strategy will be a significant shift from the past RI/FS paradigm and IAG constraints. The theme of the concept will be "real time data/real time decisions". It is envisioned this concept will involve the following:

1. Consolidate the existing environmental information for the IA IHSSs and other locations. The vast majority of the existing data for the IA was collected to address Phase I objectives (soil gas, surfical soil chemical data, limited groundwater and subsurface soil data, in-situ radiological surveys, surface water and sediment data).
2. Develop and use a system that ranks and prioritizes areas/IHSSs. The ranking system should take into account human health risk, potential source to groundwater, the existence of USTs, proximity to contaminated buildings, ease of access, etc. The initial approach will be to address high risk soil contamination or conditions that are potential or continuing sources areas to groundwater degradation. Some IHSSs/areas that require no further action can be identified.
3. Use of on-site or mobile laboratory capabilities to obtain analytical data quickly. Use a geographical information management system that can map contamination (3 dimensions), can be used as a predictive model and can be easily reference by interested parties for review.
4. Initiate remedial action activities when contamination has been delineated. Use of models and the observational approach could be used to aid in the presumptive remedy selection. A series of presumptive remedies can be developed for the Industrial Area that will be specific for given type of contamination, depth, contamination volume, soil condition, depth to groundwater, etc. The challenge will be to logistically coordinate and modify the presumptive remedies once the contamination has been defined both vertically and horizontally.
5. Groundwater characterization in the IA is limited. Groundwater may be addressed as an independent management unit. Groundwater remediation should be addressed after adequate vertical and horizontal characterization has been achieved and after the critical source areas have been remediated.
6. Residual risks should be identified to aid risk managers towards developing strategies for final closure of the IA

There are some obvious barriers that will need to be overcome in order to implement an accelerated strategy. Regulatory agencies will need to be actively involved with the decision process. The environmental restoration concept will streamline the regulatory agency review and approval process and will emphasize a teaming relationship. Logistical barriers will be critical for D&D and the Pu stabilization programs. Examples of other barriers include utility clearances (as-builts accuracy), waste management, RCRA permitting, ecological habitat considerations, D&D/Pu Stabilization schedules, and DOE requirements.

The 28 August strategy meeting was a good beginning to initiate the thought processes necessary to conceptualize and develop the overall IA strategy. Additional meetings between Jacobs and RMRS will be needed to develop a technically sound and acceptable environmental restoration strategy for the IA.

RMRS Rocky Mountain Remediation Services, L.L.C.
. . . protecting the environment

INTEROFFICE MEMORANDUM

DATE: 29-August-95

TO: Jim Barthel

FROM: T. P. O'Rourke

SUBJECT: 28-August-95 Industrial Area (IA) Strategy Meeting

Persons in attendance included:		
	Tim O'Rourke	RMRS
	Bruce Peterman	RMRS
	Art Hirsch	Jacobs Engineering
	Henry Bell	Jacobs Engineering
	Ken Alkama	Jacobs Engineering
	Theresa Jehn-Dellaport	Jacobs Engineering

Ann Tyson, John Law, and Zeke Houk, all from RMRS, were invited but unable to attend.

The objective of the meeting was to conduct a brainstorming session to support development of a strategy for cleanup and eventual closure of the IA.

A general discussion regarding IA strategy kicked off the meeting. Highlights of this discussion included the following:

• Approach should be area by area and not limited to IHSS or OU boundaries.

• The spectrum of activities to be evaluated range from no action until after D&D to commencement of all activities in areas outside the buildings.

• It was suggested that the main risk driver was worker exposure for consolidation, stabilization, and D&D activities. This would indicate that the clean up strategy should be geared towards supporting these activities.

• A point was made that safety rather than exposure would be the main driver since institutional controls would (e.g. PPE) would limit exposure.

• A modifier for the strategy might be to structure the cleanup so that it would enhance that ability of workers to conduct stabilization, consolidation, and D&D activities.

• The strategy should consider risk management costs to achieve final closure to end state standards so that incremental costs to achieve the final end state are understood. It was agreed that when cost effective, activities should attain final end state closure standards.

• D&D and IA cleanup need to be well integrated. In addition, both should support consolidation and stabilization activities as well as the interim end state.

As a result of the above documented discussion, 10 objectives for the IA strategy were defined. These are:

1. IA strategy must support the interim end state.

5

2. IA activities should achieve real risk reduction.

3. The focus of the IA strategy should be on source removals.

4. Sufficient characterization data is necessary to identify, understand, and prioritize risks.

5. The strategy should support and enhance Pu stabilization and consolidation activities.

6. Assuming #5 also applies to D&D, cleanup and D&D should be fully integrated. Whenever possible, however, parallel pathways should be identified

7. The IA strategy should also include activities that control risk in areas where risk reduction activities are not yet feasible for logistical reasons.

8. The IA strategy should be structured within reasonable financial bounds. An estimate of 50-80 million dollars per year for the total ER program was given.

9. The strategy should support the final end state when appropriate and economically feasible.

10. The strategy needs to fully identify any barriers and data gaps that may impact the ability to achieve other objectives.

Once the objectives were agreed to, a brief discussion was held on the current understanding of the nature and extent of contamination in the IA. In general standard industrial organic contamination is the major source in the IA. Rad contamination appears rarely and is usually found as hot spots. Metals do not appear to be a significant problem. It was recognized that most of the data is from surficial investigations in soils. Subsurface contamination is not well understood. Groundwater contamination also needs further definition.

It was pointed out that significant risk assessment and characterization activities would be conducted at the expense of achieving risk reduction. Care must be taken to ensure that risk reduction activities were maximized.

The discussion shifted to implementation strategies and techniques. The following techniques were discussed.

1. Capping the IA coupled with upgradient groundwater diversion and down gradient pump and treat.

2. Mobile in-situ vitrification of hot spots.

3. A graded excavation-vapor extraction-thermal desorption approach for organics.

4. Land farming

5. Focused characterization to support hot spot remediation. This would include mobile labs and hyrodpunch sampling coupled with presumptive remedies and pre-approved performance standards.

6. Inter-agency field teams to enhance the ability to make on-site real time decisions during remediation.

7. A pre-approved decision process to enhance real time decision making.

It was pointed out that the technologies necessary to remediate the IA were standard off the shelf technologies. Innovation should be focused on how to best implement these technologies in an efficient and cost effective manner.

Next steps.

Jacobs agreed to provide an executive summary capturing the objectives and implementation strategies generated during this meeting. This summary is due next Tuesday, 5-September -95.

Meeting adjourned.

CC.
Hirsch
Hopkins
Law
Parker
Peterman
Primrose
Tyson

2/7

For 7