

SALMON, LEWIS & WELDON, P.L.C.

Attorneys at Law

Riney B. Salmon II, P.C.
John B. Weldon, Jr.
Lisa M. McKnight
James R. Huntwork
Ronnie P. Hawks
Maxine M. Becker
Douglas J. Kunath
Scott M. Deeny
Richard N. Morrison-Of Counsel

2850 E. Camelback Road, Suite 200
Phoenix, Arizona 85016
Telephone 602-801-9060
Facsimile 602-801-9070

M. Byron Lewis
Stephen E. Crofton
Mark A. McGinnis
Karen S. Gaylord
Elizabeth M. Behnke
Kristin D. Magin
Rebecca C. Goldberg
Janis L. Bladine-Of Counsel

Writer's Direct Line
602.801.9075

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Writer's Internet Address
ksg@slwplc.com

Via E-mail

Jennifer Thies
Arizona Department of Environmental Quality
WQARF Unit Manager
1110 West Washington Street, 4415B-1
Phoenix, Arizona 85007

Re: West Van Buren WQARF Site
Roosevelt Irrigation District Proposal for Early Response Action

Dear Ms. Thies:

Honeywell International Inc. appreciates this opportunity to comment on the Early Response Action (ERA) Work Plan and Groundwater Response Action Implementation Plan (GRA) submitted on behalf of the Roosevelt Irrigation District (RID). These documents purport to summarize an approach to groundwater contamination in the West Van Buren Area (WVBA) Water Quality Assurance Revolving Fund (WQARF) Registry Site that satisfies WQARF criteria for an ERA. After a thorough technical and legal review, we believe the Arizona Department of Environmental Quality must deny RID's request for approval of its ERA because:

- The ERA is not necessary to address a current risk to human health or the environment.
 - RID system does not currently provide water to customers for potable use.
 - There is no evidence of risk from body contact and swimming.
- The ERA is not necessary to protect or provide a source of water.
- The ERA is not necessary to address contamination sources.
- The ERA is not necessary to control or contain contamination and will not reduce the scope or cost of the remedy needed at the site.
 - Mass removal rates are exaggerated.
 - No evidence exists that RID's proposal will enhance capture.
 - The RID ERA would increase, rather than decrease, the cost and scope of the West Van Buren site remedy.
- RID has not demonstrated that the proposed ERA is otherwise reasonable, necessary, or technically feasible.
- RID's analysis of alternative remediation methods and technologies is inadequate.

- RID's ERA Work Plan fails to provide for modifications due to unanticipated or changed conditions.
- RID's Early Response Action would not be "Early".
- RID's proposal is premised on an erroneous view of its water rights.
- Exportation of drinking water resources undermines Arizona water law and policy.
- RID's pump and treat proposal is not the presumptive remedy for West Van Buren.
- The ERA could exacerbate contamination by increasing the extent of the impacted groundwater and impairing groundwater resources which are currently not impaired.
- The ERA will likely result in an increase to the scope and cost of the final remedy.
- The ERA is not a reasonable, feasible or cost-effective method of addressing contamination in West Van Buren because RID's goal is to become a potable water provider, not to address the West Van Buren groundwater plume.

These comments are provided in the context of RID's multipart scheme to win public and agency support for its proposal, which goes beyond the confines of RID's ERA Workplan and Implementation Plan. RID has presented the ERA to ADEQ as a first phase in a more comprehensive GRA to be conducted under WQARF. But RID is unwilling to undertake the work unless third parties, including Honeywell and others, pay the bill.¹

Although RID would have ADEQ believe that RID approached other parties with a reasonable solution to a regional problem, and that those parties rejected it out of hand, that is far from the case. RID first presented its proposal to a mass meeting of interested parties in the Fall of 2009. The proposal was presented as a fait accompli; none of the interested parties had input into RID's plan. RID gave attendees a few weeks to present it with individual settlement proposals through which RID planned to fund the ERA. If such proposals were not forthcoming, RID threatened litigation. This approach hardly qualifies as cooperative effort to solve a regional problem.

In that fall meeting and in various venues before and after, RID also described another facet of its proposal that the ERA workplan does not discuss. RID proposed to construct and operate a distribution system that would carry treated groundwater from its new treatment facility to West Valley cities. Although RID proposed that those cities would pay treatment operation and maintenance (O&M) costs, the proposal hinged on RID's ability to obtain funding—through settlements or litigation—for the treatment and transportation systems.

Meanwhile, RID retained a public relations firm to lobby state and local officials and the public. RID lambasted ADEQ and the Central Phoenix business community for allegedly having done nothing to address problems in West Van Buren, ignoring ADEQ's progress toward selection of a final remedy and source control projects by PRPs. RID presented itself as a proponent for the community and the environment.

¹ Montgomery and Associates, *GRA Implementation Plan*, at ES-8 (September 25, 2009) (hereinafter "*Implementation Plan*") (the ERA will not be initiated until "sufficient response action costs are available from the PRPs"); Agreement to Conduct Work between RID and ADEQ, ¶ 4 (October 8, 2009).

When third party settlements to finance RID's scheme did not materialize, RID filed a complaint in Federal District Court against over one hundred named defendants claiming unspecified damages under CERCLA and common law theories. That complaint has not yet been served, but RID is using the threat of litigation in an attempt to coerce settlements. To that end, ADEQ approval of the ERA is vital to RID because that approval advances RID's litigation position in federal court.

Looking at RID's scheme as a whole, it becomes clear that RID's proposal is an attempt to force third parties to fund a treatment and distribution system for potable water that RID believes will transform it into a municipal water provider as its current agricultural irrigation customers give way to commercial, industrial, and residential development. They are pursuing that end through threats of litigation against over a hundred entities in state and federal cleanup sites throughout the Phoenix metropolitan area. And they are seeking ERA approval primarily to advance their plans to become a potable water provider and enhance their litigation position, not because they have a reasoned approach to regional groundwater contamination.

As you know, Honeywell is not a Potentially Responsible Party for the West Van Buren site. But as a working party in the Motorola 52nd Street Site, we are interested in a regional solution to groundwater contamination in the central Phoenix area. But we fear that RID's proposal may in fact exacerbate the regional problem, increase remediation costs, and prove inconsistent with a regional approach designed to eliminate sources, contain contamination, and reduce the scope of the final remedy.

In sum, RID proposes to spend \$130 million of other people's money, jumping ahead of the normal remedy selection process with no investigation or analysis, even though groundwater contamination in West Van Buren presents no current risk to health or the environment and no impairment of the current RID use of water. The proposal lacks all but the most rudimentary analysis of the complicated hydrogeologic setting and the appropriate remedial solutions and technologies. RID has presented no evidence that its proposal will work for local areas of contamination at RID wells, much less that it is the regional remedy that we should all be working toward. And RID's phased approach is driven by the desire to implement a potable water marketing scheme (for which it has no current customers) that extracts the maximum possible volume of water and provides for treatment of all this water rather than to ensure the groundwater plume is contained and remediated. This approach would exacerbate conditions by increasing vertical and horizontal gradients in the vicinity of the plume, expanding the current size of the plume. RID has not provided any support that their proposed remedy will not expand the size of the plume.

There is an alternative. Honeywell has been working with a large group of parties from WQARF and CERCLA sites in the region to understand the problems and to propose a reasonable solution. This group already has communicated our willingness to conduct the Feasibility Study (FS) for West Van Buren that will expedite the ordinary WQARF remedy selection process and conduct the necessary investigation and analysis that RID has failed to do. In fact, given that RID's proposal will never be funded absent a lengthy court battle with dozens of Phoenix-area businesses, the working group likely could select and implement a remedy much quicker than anything RID will achieve if it pursues its current path. ADEQ should allow the

regional group to proceed in a collaborative manner to conduct the FS. If RID's proposal has merit as a final remedy, that will be proven during the FS process and RID will have lost nothing.

In the paragraphs that follow, we have laid out the numerous problems and inadequacies we have seen in RID's proposal. We want to emphasize, however, that while our comments focus on the negative aspects of RID's proposal, our goal is not to nitpick solutions proposed by others or to delay a final West Van Buren remedy. Rather, our goal is to respect the WQARF remedy selection process and to involve all stakeholders in a thorough analysis of the problem and a reasonable approach to a solution. We believe that goal can be achieved, but not in the manner RID has proposed.

Detailed criteria required for an ERA is set forth in regulation at A.A.C. § R18-16-405. In order for ADEQ to approve an ERA, the applicant must (1) meet the specific requirements of the ERA Rule; (2) satisfy community involvement requirements; (3) provide for modifications to address unknown or changed conditions; (4) demonstrate compliance with the statutory remedial action criteria; and (5) meet applicable regulatory design, O&M, and innovative technology requirements.²

An applicant for agency ERA approval must provide both a work plan and a rationale explaining how the proposed action achieves the "necessary" criteria of § R18-16-405(A) and community involvement requirements.³ Although a comprehensive remedial investigation and feasibility study is not required for an ERA, the ERA rationale must still adequately explain how the ERA achieves the "necessary" criteria and is consistent with the remedial action criteria. The applicant must identify the information used and how it was considered in ERA selection within the ERA rationale or work plan.⁴ The method for addressing contamination must be selected using professional industry standards based on the best available site characterization information and the best available scientific information on remedial methods and technologies.⁵ Finally, the work plan must discuss how the ERA will account for necessary modifications due to unknown or changed conditions.⁶

The proposed action also must (1) protect public health, welfare, and the environment; (2) to the extent practicable, provide for the control, management or cleanup of the hazardous substances in order to allow the maximum beneficial use of the waters of the state; and (3) be reasonable, necessary, cost-effective and technically feasible.⁷ These remedial action criteria must be read in conjunction with the intent of the overall WQARF remedial process, which requires flexibility in remedial action selection and site specific analysis of current and reasonably foreseeable uses. As reflected in the agency's rulemaking package preamble,

² A.A.C. § R18-16-405(H).

³ A.A.C. §§ R18-16-405(D), (H)

⁴ A.A.C. § 18-16-405(C).

⁵ A.A.C. § 18-16-405(B).

⁶ A.A.C. § R18-16-405(H).

⁷ A.R.S. § 49-282.06(A).

[t]his process for establishing remedial objectives for a site is quite different than the process that was previously used in the WQARF program and is still used by EPA at federal superfund sites. ...Remedial objectives described in this rule are based on uses determined by the community and are refined by the Department with significant community involvement. The objectives are designed to protect and provide for uses of land and water. That does not mean that the aquifer will be always be cleaned up to drinking water standards or to a level suitable for the use. Instead, the rule requires different uses to be identified and a remedy is selected which will protect and provide for the uses.⁸

RID's Proposed ERA fails to adequately address the regulatory requirements for agency ERA approval and also fails to demonstrate compliance with the requisite statutory criteria of reasonableness, necessity, cost effectiveness and technical feasibility. As a result, ADEQ should deny RID's request for approval of the ERA.

I. The Scope of RID's ERA Exceeds the Permissible Scope of a WQARF ERA.

WQARF provides a detailed process to select a final remedy for each site. The final site remedy is the culmination of a thorough, complete remedial investigation and feasibility study. This comprehensive process includes identification and discussion of current and reasonably foreseeable uses of land and water that may be impacted by the contamination, and development of remedial objectives linked to these uses.⁹ The remedial objectives then serve as the basis for the feasibility study, during which a reference remedy and alternatives are developed and evaluated.¹⁰ Possible negative effects and unintended consequences of each alternative are considered during this process. The public is involved in each step.

Departure from this process is allowed only where earlier action is "necessary" – where the action cannot wait for the ordinary remedy selection process, with all of its protections and checks and balances, to be completed. An ERA may be conducted where earlier action is *necessary* to:

- address current risk to public health, welfare, and the environment;
- protect or provide a supply of water;
- address contamination sources; or
- control or contain contamination where the action is expected to reduce the scope or cost of the remedy needed at the site.¹¹

Early action may be conducted without the benefit of all the information available during the ordinary FS process, without full community involvement, and without a complete analysis of alternatives. But there is a risk that early action could later prove to have been counterproductive. In the worst case, the early action could exacerbate contamination. For these

⁸ 8 A.A.R. at 1503.

⁹ A.A.C. § R18-16-406.

¹⁰ A.A.C. §§ R18-16-407 (A), (E).

¹¹ A.A.C § R18-16-405(A); A.R.S. § 49-282.06(A).

reasons, an ERA may be conducted only “once sufficient information is available to characterize the site and determine that the early response action is necessary.”¹²

The RID proposal is not necessary to achieve any of the four permissible ERA purposes.

A. The ERA Is Not Necessary to Address Current Risk to Public Health, Welfare, or the Environment.

Despite RID’s claims in public meetings that groundwater transported in its canals presents a risk to public health, the truth is that almost all of RID’s canals and laterals have been piped and the public is no longer exposed to RID canal water in the proximity of wells impacted by contamination. Before enclosing its canals, RID pumped and transported groundwater through its open canals to its landowners “for over 50 years.”¹³ No evidence exists in the record to indicate that these historical activities endangered anyone. Nor does any evidence exist that RID took steps to reduce the alleged risk or to warn the public or its landowners of a risk.

The West Van Buren Draft RI concluded that “the effect of RID well discharge of groundwater containing VOCs into the canal is not appreciable.”¹⁴ This is because contaminated groundwater is mixed with significant base flow from the 23rd Avenue wastewater treatment facility and RID wells pumping uncontaminated groundwater. This mixing dilutes VOC concentrations to below drinking water standards “within 125 feet of the point of discharge.”¹⁵ RID has presented no data to the contrary. So although the RID canals act as a transport mechanism for low levels of contaminants, the concentrations in the canals generally are below drinking water standards and cannot be classified as a threat to public health.

RID adopts some of the analysis and conclusions of the West Van Buren Draft RI wholesale in its ERA, having conducted no additional investigation or analysis of its own. But RID ignores ADEQ’s conclusions regarding the risk associated with RID’s canals because the proposed ERA is not necessary if no risk exists. To help justify its proposal, RID has argued that contaminants in its canals may present a risk to public health through volatilization into the air.¹⁶ But RID has presented no data to support this allegation. Maricopa County, which regulates air quality in the area, has no emissions standards for incidental volatilization from irrigation canals. Absent data to the contrary, volatilization cannot be assumed to present a risk sufficient to justify RID’s proposed ERA.

The cursory evaluation of risk in the ERA Work Plan does not fully identify alleged potential complete exposure pathways. However, RID’s allegations of a current substantial public health risk appear to be premised upon three factors. The first is the detection of volatile organic compounds, principally TCE, PCE, and 1,1-DCE at levels above drinking

¹² 8 A.A.R. at 1507.

¹³ RID Cover letter to Revised ERA Work Plan at 2 (Feb. 4, 2010).

¹⁴ Terranext, *Draft Remedial Investigation Report, West Van Buren WQARF Registry Site*, Volume 1, at 6-10 (October 2008) (“*Draft RI*”).

¹⁵ *Id.*

¹⁶ Letter of February 23, 2010 from Stanley H. Ashby, Roosevelt Irrigation District, to The Honorable Janice K. Brewer, Governor, State of Arizona, p. 2.

water standards within certain RID production wells. The second pertains to the RID canals as a source of agricultural and urban irrigation water, and the third is the potential body contact in those portions of the canal that are not covered or protected from public access.

1. *RID does not distribute water for potable use*

Certain RID wells contain volatile organic compounds at concentrations above Safe Drinking Water Act Maximum Contaminant Levels (MCL). If one of these wells were used as a direct source of public drinking water, it would require treatment. But the impacted RID wells are used only to supply irrigation water, not drinking water. The portion of the aquifer contaminated in the West Van Buren WQARF area is not currently used as a public drinking water supply. Therefore, the presence of VOCs within certain RID wells does not present a complete current ingestion exposure pathway with regard to drinking water consumption.

2. *There is No Evidence of Risk From Body Contact and Swimming.*

In meetings with State and local officials and the public in recent months, RID representatives have shown a video of children playing in an RID canal. RID has referred to this location as a “swimming hole.” The video is used to portray the alleged risk posed by contaminants in the water conveyed through the canal.

The video was taken along 27th Avenue between Buckeye Road and Durango St.¹⁷ Until recently, a 275-foot section of the lateral running along 27th Avenue had not been piped and had been in a state of severe disrepair. It appears this open lateral had not been lined with concrete. As a result, water discharged from the pipe located at the upstream end of this open lateral discharged with sufficient force to carve out a large depression in the soil that was much wider than the original lateral. When this depression filled with water, it became an attractive nuisance for children and adults to play in.¹⁸

What RID is not telling those same State and local officials and the public is that this open lateral has now been piped.¹⁹ Therefore, even if some minor risk had previously existed, which is clearly debatable in the absence of sampling from the open lateral, water in the lateral is no longer a risk to anyone. RID has continued to use this video, however, misinforming the public in an attempt to incite fear and generate support for its proposal. RID’s characterization of the risk is sensationalized and unsupported by the facts.

Furthermore, RID has portrayed the water in this section of the canal as coming from the most contaminated wells in RID’s system. That simply is not true. This open lateral was supplied by groundwater from production well RID-100, located 3,200 feet upstream and production well RID-99, located 500 feet upstream. Water samples collected in September 2008 indicated that RID-100 contained 7.8 µg/L PCE, 34 µg/L TCE, 34 µg/L 1,1,1-TCA, and 9.3 µg/L 1,1-DCE. RID-99 contained 7.9 µg/L PCE, 0.71 µg/L TCE, 0.71 µg/L 1,1,1-TCA, and 2.0 µg/L

¹⁷ Exhibit 1.

¹⁸ Exhibit 2.

¹⁹ Exhibit 3.

1,1-DCE. With the exception of 1,1-DCE in RID-100, these contaminant concentrations are lower than any applicable standards from ADEQ's 2009 ADEQ Final Surface Water, Partial Body Contact Standards;²⁰ the 1998 Arizona Department of Health Services (ADHS) Draft End Use Standards for open water conveyances; and ADHS's Health Based Guidance Levels (HBGLs) for other sites in Arizona.²¹ Therefore, no risk existed due to contact with surface water in this lateral before it was piped.

A review of RID's conveyance system indicates that the risk associated with the remainder of the system is minimal at best. RID's conveyance system includes the RID Main Canal, Main Canal laterals, and the Salt Canal. The RID Main Canal is an open canal that runs in a northwesterly direction and extends from 19th Avenue to RID's service area in western Phoenix. A total of six unnamed Main Canal laterals oriented north to south from 19th Avenue to 51st Avenue connect to the RID Main Canal. The Salt Canal runs east to west along Van Buren Street from 23rd Avenue until it meets the Main Canal at approximately 83rd Avenue.

Although the Main Canal is open along its entire length, available data do not support the conclusion that water in the Main Canal presents a risk due to bodily contact or ingestion. Of the wells sampled on the RID Main Canal in 2008, only one, RID-84, contained detectable levels of TCE (1.4 µg/l) and PCE (10.0 µg/l). Available canal sampling data show that in 2003, the last time canal water samples were taken, TCE and PCE concentrations were 1.3 µg/l and 7.6 µg/l, respectively at the upstream end of the RID Main Canal near 19th Avenue and were less than 5 µg/l in the RID Main Canal immediately downstream of well RID-84, near 67th Avenue.²² These low levels of contaminants do not present a risk from surface water contact in the Main Canal, based on ADHS guidance levels for contact with irrigation water at other sites and on ADEQ surface water quality standards.

According to the February 3, 2010 RID Work Plan and visual observations, the six Main Canal laterals between 19th Avenue and 51st Avenue are underground gravity pipelines. A single open segment still exists along the 43rd Avenue lateral that transports water from production well RID-92.²³ This section of open lateral is approximately 400 feet long, concrete-lined, less than 3 feet deep, and does not appear to have carried water for some time.²⁴ Available information indicates that this open section is no longer in use. Even if it is still used, it is likely not conducive to swimming or play because the canal is shallow and thin, concrete lined, contains sections of broken and jagged concrete,²⁵ and is located in an industrial area.²⁶

²⁰ A.A.C. Title 18, Art. 1, App. A.

²¹ Arizona Department of Health Services, *Public Health Assessment, Groundwater Contamination in West Plume B*, at 15 (October 10, 2000) (setting health-based guidance level for contact with irrigation water at 397 µg/L TCE for adults and 87 µg/L TCE for children); Arizona Department of Health Services, *Public Health Assessment, Phoenix Goodyear Airport (North)*, at 21-22 (same).

²² *Draft RI*, Figure 4-38.

²³ Exhibit 4.

²⁴ Exhibit 5. Based on the condition of this lateral, it is possible that this open section is no longer used and that a piped lateral exists below or adjacent to this area in the right-of-way. The status of this section could not be confirmed, however, based on available information.

²⁵ Exhibits 6-7.

²⁶ Exhibit 4.

The RID Salt Canal is located within the right of way south of Van Buren Street and extends from 23rd Avenue to 83rd Avenue, where it joins the RID Main Canal. According to the RID Work Plan and visual observations, the Salt Canal has been converted to an underground gravity pipeline over its entire length, except for two segments located between 75th Avenue and 83rd Avenue. One section is located west of 75th Avenue and is approximately 300 feet long.²⁷ The other section is located west of 79th Avenue and is approximately 1,100 feet long.²⁸ Although these two open segments of the Salt Canal could potentially represent an exposure pathway through dermal contact, inhalation, and incidental ingestion, several factors mitigate the risk associated with these sections.

First, the location and physical condition of these sections is not conducive to public access and use. Both of these sections are surrounded by agricultural fields, warehouses, and industrial facilities and are located at least one-half mile from residential areas.²⁹ Both sections are lined with concrete along their entire length, making them less welcoming to children and swimmers. Furthermore, the concrete is broken and jagged in numerous places along these two sections, making them even less of an attraction.³⁰

Second, available sampling data do not indicate the presence of a risk from contact with water in the Salt Canal. Groundwater sampling data from RID-105, the well immediately upstream of these two open sections, show that PCE, TCE, and 1,1-DCE concentrations all were below drinking water standards in 2008.³¹ Sampling results for surface water from the Salt Canal west of 75th Avenue taken in 2003 showed a PCE concentration of 2.1 µg/l and TCE concentration of 8.7 µg/l. These levels are well below applicable surface water quality standards for body contact or fish consumption.

Finally, any risk that might be associated with these two sections of the Salt Canal will soon be eliminated. RID has indicated that it intends to pipe these two sections within the next few months.

In sum, the alleged risks from exposure to surface water in open sections of the RID system have been greatly exaggerated in an effort to drum up public support for RID's unreasonable proposal. Any open sections that might be attractive to children or swimmers have been piped, will soon be piped, and otherwise appear to present minimal, if any, risk. There simply does not appear to be a legitimate current health concern associated with the potential exposure pathways based on the data collected to date.

²⁷ Exhibits 8-9.

²⁸ Exhibits 10-11.

²⁹ Exhibits 8 and 10.

³⁰ Exhibits 12-15.

³¹ Terranext, *Roosevelt Irrigation District Water Quality Report*, Table 3.1 (December 2008).

B. The ERA is Not Necessary to Protect or Provide a Supply of Water.

Under WQARF, the ERA may not short-cut the remedy selection process. Any decision on a final site remedy must still follow the WQARF selection process and criteria.³² Once that final remedy is selected, any ongoing ERA must adjust to accommodate the selected site remedy.³³ Examples of contemplated ERAs are provided in the regulatory preamble as “short-term actions, such as fencing or providing bottled water, or they may involve an expensive large-scale groundwater treatment system.”³⁴ But early construction of permanent or long-term remedial actions poses a special risk. It is almost impossible to adjust a permanent large-scale treatment plant to accommodate the final remedy selected for the site.

The treatment plant constructed for the Town of Payson illustrates the appropriate situation where a large-scale treatment plant may be constructed as an ERA. In that case, a current risk was posed by contamination of the Town’s sole source of drinking water. There was enough information to determine that no other source of drinking water for the Town existed. The Town could not wait for the final remedy selection process to proceed.

Although RID claims that its operations have been impacted by contaminants in groundwater, it has provided absolutely no evidence of such impacts. Data regarding contaminants in some RID wells has been available since at least 1984. Yet RID has continued to pump and deliver groundwater for irrigation to its landowners just as it always has done. Nothing in the record indicates that RID has altered its operations in any way as a result of groundwater contaminants in the West Van Buren Area. Nor is there a shred of evidence that the use of this water for agricultural irrigation has had any impact on RID’s landowners or their crops. RID has not provided any support that the ERA is required to protect current uses of their water or their distribution system.

Nevertheless, the final remedy selection process will evaluate RID’s use of this water. In selecting the final remedy, the “measures taken to address contaminated or threatened wells must be identified in consultation with water providers or well owners to ensure the action taken meets their water use needs.”³⁵ The final remedy must address any RID well impaired by the contamination, as the selected final remedy must be one that “addresses any well that either supplies water for ...irrigation or agricultural uses ...if the well would now or in the reasonably foreseeable future produce water that would not be fit for its current or reasonably foreseeable end use without treatment.”³⁶

This does not mean, however, that the well owner can choose any particular end use that they might dream up and mandate a remedial action designed upon that end use. Agency responses to comments in the WQARF rulemaking process clarify that reasonably foreseeable

³² A.A.C. § R18-16-405(F).

³³ *Id.*

³⁴ 8 A.A.R. at 1501.

³⁵ 8 A.A.R. at 1503.

³⁶ 8 A.A.R. at 1503.

end uses are those that are *reasonably probable* to occur in the future, “not one simply within the realm of possibility.”³⁷ ADEQ recognized the need to consider water providers’ plans but declined the invitation to create a presumption based upon drinking water standards. Similarly, the agency stressed that the water provider’s input was but one tool for agency consideration and recognized as well that there may be competing water use desires.³⁸ Much of RID’s proposal is not “necessary” under WQARF because its primary intent is to facilitate RID’s entry into the potable water business, not to contain or remediate groundwater. WQARF was not intended to provide parties with a basis to recover costs for improving existing facilities and infrastructure. Work that is motivated solely by business or profit motives is not “necessary” under WQARF.

The scope of RID’s ERA exceeds the permissible or intended scope of an ERA and even exceeds the scope of a reasonable final remedy. Remedial actions under WQARF, including ERAs, are not intended to encompass costs that a well owner or water provider would have incurred regardless of the release.³⁹ As explained in the agency’s rulemaking package, WQARF remedy selection addresses

only the impacts of a release or a threatened release of a hazardous substance ... [and] will not cover remedial action costs that would have been incurred if the release had not impacted the property or well. For example, a well may have high levels of trichloroethylene, arsenic, and total dissolved solids. If only the trichloroethylene was released and the other contaminants were present before the release, the well owner cannot require WQARF to clean up the remainder of the contaminants or replace the well with a more productive well.⁴⁰

This is not the first time a party has attempted to use a remediation statute in this fashion. In 1979, G.J. Leasing bought a former power plant building in Sauget, Illinois from Union Electric. Nine years later, G.J. Leasing began to remove asbestos from the building. It then sued Union Electric under CERCLA, arguing that Union Electric should be liable for the costs of asbestos removal. The trial court held that asbestos removal was not a “necessary” response within the meaning of CERCLA, because the plaintiffs failed to demonstrate any risk to human health or the environment—asbestos could have remained in the building with no harm to anyone.⁴¹ The Seventh Circuit agreed that parties could not use CERCLA as a mechanism to recover the cost of improvements to their land or facilities:

The statutory limitation to “necessary” costs of cleaning up is important. Without it there would be no check on the temptation to improve one’s property and charge the expense of improvement to someone else. Suppose a building that was being used to warehouse heavy industrial equipment were found to have very low levels of contamination by some hazardous substance and only a small expenditure would be necessary to remove enough of the substance to make the

³⁷ 8 A.A.R. at 1519, 1521.

³⁸ 8 A.A.R. at 1521, 1522.

³⁹ A.A.C. § R18-16-402(B).

⁴⁰ 8 A.A.R at 1499.

⁴¹ *G.J. Leasing Co., Inc. v. Union Electric Co.*, 854 F. Supp. 539, 561-63 (S.D. Ill. 1994).

building safe for its current use. Thinking this a perfect opportunity to upgrade that use, the owners decide to incur enormous costs to eliminate the contamination utterly, charge those costs to whoever was responsible for the current very low level of contamination, and then convert the building to a hospital, day care center, or dairy products plant. The limitation to “necessary” response costs would deter them from carrying out this scheme.⁴²

The court’s example is exactly the situation we have here. Honeywell does not disagree that steps must be taken to address groundwater contamination in West Van Buren. But that contamination should not serve as a basis for RID to charge third parties for the cost of upgrading its facilities to become a potable water provider.

It is evident from the manner in which proposed work has been phased that RID’s driving concern is the creation of a potable water system, not a reasoned approach to remediation. The highest levels of contamination are found mainly in wells on the east side or center of RID’s system, such as RID-95 and RID-92. A reasonable approach would, at a minimum, address contamination in these wells first. Treated water from these wells could be carried to the Main Canal along existing laterals and used for irrigation without any significant changes to RID’s system.

But the first phase of RID’s proposal instead focuses on the wells to the north, along Van Buren Street and the Salt Canal. Most of these wells have low concentrations of contaminants, some at levels below applicable MCLs.⁴³ RID needs to treat these wells first, however, because if RID wants to become a potable water provider it needs the Salt Canal as the backbone of its treatment system. The wells with higher concentrations of contaminants in the center of its system are connected to the Main Canal, which cannot be used to transport drinking water because it carries effluent from the 23rd Avenue treatment facility. Therefore, the first phase of the ERA concentrates on low levels of contamination in the Salt Canal wells not because it is a reasonable remediation strategy, but because it is required to develop a potable water distribution system.

RID claims that drinking water is a foreseeable end use of groundwater in the area. Drinking water may be a foreseeable end use of groundwater in the West Van Buren Area for entities such as the City of Phoenix or Salt River Project. But use *by RID* of that groundwater for drinking water is not a foreseeable end use. RID is, and always has been, in the business of supplying irrigation water. As late as November 2007, RID reported that it only used

⁴² *G.J. Leasing Co., Inc. v. Union Electric Co.*, 54 F.3d 379, 386 (7th Cir. 1995). See also *Southfund Partners III v. Sears, Roebuck and Co.*, 57 F. Supp. 2d 1369, 1378-80 (N.D. Ga. 1999) (in absence of threat to human health or environment, landowner could not recover as CERCLA response costs for work conducted to improve property’s marketability); *Sealy Connecticut, Inc. v. Litton Industries, Inc.*, 93 F. Supp. 2d 177, 188-189 (D. Conn. 2000) (costs of building demolition not recoverable under CERCLA because demolition was conducted to help market the property; any benefit to remedial efforts was incidental); *City of Moses Lake v. United States*, 458 F. Supp. 2d 1198, 1219-1221 (E.D. Wash. 2006) (costs of drinking water system improvements unrelated to TCE contamination were not “necessary” costs under CERCLA).

⁴³ See Montgomery and Associates, *Work Plan, Roosevelt Irrigation District Early Response Action*, Table 2 (February 3, 2010) (hereinafter “*ERA Work Plan*”); Terranext, *Roosevelt Irrigation District Water Quality Report*, Table 3.1 (December 2008).

groundwater for non-potable uses and that groundwater would continue to be used for those purposes in the future.⁴⁴ Specifically, RID indicated that it foresaw no significant changes in regard to its use of West Van Buren groundwater and that future uses (up to 100 years) for any impacted wells would be the “same as today.”⁴⁵

ADEQ will evaluate whether it is reasonably foreseeable that RID can overcome legal and technical barriers to convert itself into a municipal water supplier. It will also evaluate whether it would be possible for RID to do so if the aquifer had not been impacted by contamination. In determining whether RID’s proposed sale of drinking water is reasonably foreseeable, ADEQ must ask whether RID’s project would be feasible if the aquifer were not impacted. RID’s proposal involves transportation of treated water to the West Valley at enormous expense. In our view it is not reasonably foreseeable that RID would undertake this project but for its plan to use CERCLA litigation and its joint and several liability scheme to transfer to the WQARF program and a large list of defendants the expenses that it would ordinarily bear as part of the project. If the project to sell water for drinking water use is actually made feasible only by the WQARF remedy, then the use is not reasonably foreseeable.

In any event the agency will determine which uses are reasonably foreseeable, and the remedy selection process will culminate in a final remedy that addresses RID’s current and reasonably foreseeable uses of water and addresses its impacted wells. Early action is not necessary to provide a water supply in West Van Buren. No one is drinking groundwater from the West Van Buren Area today. There is no basis for an assertion that current irrigation uses are inappropriate. There is no credible argument to be made that we cannot wait for the final remedy to address reasonably foreseeable water uses. There is ample time to investigate and develop a reasonable and cost-effective remedy based on good data and science. The ERA process was not intended to be used as a legal basis for requiring that parties fund an unreasonable and inefficient treatment system so that an irrigation district like RID can one day become a potable water provider.

C. The ERA is not Necessary to Address Contamination Sources.

Several entities have used ERAs in West Van Buren to control sources, a common use of ERAs. For example, the American Linen Supply Company site was the subject of an ERA spearheaded by ADEQ, involving a soil vapor extraction system, air sparging system, and groundwater extraction.⁴⁶ It is generally established that if ongoing contaminant sources exist in a WQARF site, there is continuing harm that must be stopped as soon as possible. Waiting for the final remedy selection process to proceed would allow further releases and further spread of contamination. Thus ADEQ usually considers source control ERAs to be “necessary.”

RID does not attempt to, nor could it, characterize its proposal as a source control project.

⁴⁴ Stanley H. Ashby, Land and Waste Use Study Questionnaire, at 1-2 (November 12, 2007).

⁴⁵ *Id.* at 4.

⁴⁶ *Draft RI*, at 2-32.

D. The ERA is Not Necessary to Control or Contain Contamination and Will Not Reduce the Scope or Cost of the Remedy Needed at the Site.

RID asserts that its ERA will achieve significant mass removal and contain the plume. But it provides no data or analysis to support its claims.

1. Mass Removal Rates Are Exaggerated.

Attempting to justify the enormous cost of its proposed ERA, RID claims that its treatment system will remove thousands of pounds of VOCs from the aquifer each year. But the mass removal figures were generated using an unlikely best-case scenario. RID added the concentrations of all VOCs found in RID wells above detection limits, including those that are not contaminants of concern. It then factored those concentrations by groundwater withdrawal rates that are premised on pumping each well at its maximum rate 24 hours a day for 365 days a year. RID then claims that the resulting mass will be removed by its proposed treatment system on an annual basis.⁴⁷

RID's estimates of mass removal rates to be achieved by its proposed treatment system appear inflated for several reasons. RID assumes that the concentrations to be remediated at the treatment plant are equal to the concentrations found at the individual well heads. Because these compounds are volatile, the concentrations observed at the well head are higher than the concentrations detected at the downstream treatment plant. By using the concentrations at the individual well heads, RID significantly overestimates the amount of mass that would be removed by the system.

Although the ERA barely mentions it, RID has admitted publicly that twenty to thirty percent of the VOCs in groundwater that it pumps volatilize at the well head. Based on that fact alone, mass removal achieved by the proposed treatment system will be twenty to thirty percent lower than is depicted in Table 2 of RID's Work Plan. RID has stated that "conceptually," it could install carbon filters at each well head to capture VOCs.⁴⁸ This does not change the fact that these VOCs would be eliminated before groundwater reaches the treatment system, such that RID's mass removal estimates for the proposed treatment system are twenty to thirty percent too high.

The estimates also are based on continuous pumping at maximum well volumes that RID is currently incapable of maintaining. RID's original Work Plan stated that wells supplying its proposed treatment facility "would be operated as continuously as possible depending on the demand for treated water (instead of the current seasonal operation) to maximize capture and contaminant mass removal."⁴⁹ RID's estimate of VOCs that will be removed from groundwater by their system was premised on pumping each well continuously on a year-round basis.⁵⁰ Thus,

⁴⁷ ERA Work Plan, Table 2.

⁴⁸ *Id.* at 33.

⁴⁹ ERA Work Plan, at 20.

⁵⁰ *Id.*, Table 1.

the original Work Plan was premised on the unspoken assumption that RID would have end users lined up to take 10.5 billion gallons of treated groundwater each year.

RID's revised Work Plan, however, is much more ambiguous in regard to how often wells will operate. In response to ADEQ's suggestion that the Work Plan include consideration of alternative end uses, RID responded that it need not consider alternative end uses because the ERA "is predicated on using existing infrastructure and supporting existing and future water needs of RID customers."⁵¹ Thus, RID's proposal only works if it has customers lined up to take treated water that its farmers don't need for irrigation. Based on available information, however, RID has no new customers lined up to take its treated water and no real prospects of obtaining any by the time it proposes to start its system in 2012.

Most references to continuous pumping have been removed from the revised Work Plan.⁵² This omission, combined with the fact that most groundwater pumping occurs between the months of March and September,⁵³ indicates that RID's proposed system will not be operated on a continuous basis unless RID lines up new non-irrigation customers for treated water. RID has provided no information on how its estimates of mass removal and plume containment change if pumping is curtailed during times of low irrigation demand. No evidence exists that pumping half the year will achieve the mass removal predicted by the RID Work Plan. In addition, it becomes even more difficult to justify the high cost of RID's proposal in light of the more modest removal rates it is likely to achieve under current conditions.

ADEQ also must consider the lack of alternative end uses when RID's contractual right to pump water ends in or about 2026.⁵⁴ After that time, RID will not be legally permitted to transport groundwater out of the basin to its service area or to others in the West Valley. Even if ADEQ or responsible parties stepped in to operate the wells for remediation purposes, new end uses would need to be located. RID's refusal to even consider alternative end uses is short-sighted and raises serious questions about the reasonableness and effectiveness of the proposed ERA.

RID's overinflated estimates of mass removal undercut any claim that the ERA is cost effective and will help reduce overall remedial costs. The proposal's cost-effectiveness is further undermined by the fact that RID will be pumping and treating millions of gallons of groundwater that do not need to be treated. RID's mass removal estimates are based on total VOCs detected at particular RID wells. But many of the contaminants that RID relies upon to achieve these figures do not exceed drinking water standards. For instance, RID's estimates it will remove 5 µg/l of VOCs per gallon of water from RID-105, and proposes to pump that well at a rate of almost 2,000 gallons per minute. The most recent sampling data, however, indicates that there were no contaminants present above drinking water levels at that well. Thus, RID proposes to

⁵¹ Letter from Stanley Ashby to Jennifer Thies, at 3 (February 4, 2010). Elsewhere, RID acknowledges that actual removal rates will vary based on the demand for treated water. Work Plan, Table 2, n. 3.

⁵² *ERA Work Plan*, at 34 and 36.

⁵³ *Implementation Plan*, at 9.

⁵⁴ W.R. Powell, SRP Manager, Risk Management and Environmental Services, *Letter to Julie Riemenschneider*, at 2 (December 4, 2009).

pump and treat over three thousand acre-feet of groundwater per year from a well that needs no treatment at all.

For other wells, RID bases its figures on total VOCs even though only one contaminant exceeds drinking water standards⁵⁵ or it includes contaminants for which there are no drinking or surface water standards.⁵⁶ Furthermore, the *total* VOC concentrations at RID wells included in its proposed remediation system do not come close to the Arizona surface water standards for *individual* contaminants that are applicable to uses of the water for fish consumption, swimming, or irrigation and agricultural uses. Thus, in regard to any current or reasonably foreseeable uses of groundwater from these wells, no treatment of any kind is necessary.

It is unreasonable for RID to attempt to justify its proposal by claiming credit for removing trace amounts of contaminants when there is no health-based or legal justification to do so. It is also a waste of money and resources to treat water from wells that do not need treatment under any applicable standards. Approval of the ERA should not be premised on unsupported mass removal estimates that are derived from a remediation scheme that is neither reasonable nor cost effective.

2. *No Evidence Exists that RID's Proposal Will Enhance Capture.*

No evidence exists in the ERA or elsewhere that the proposed treatment system will help to contain the contaminant plume. RID has not provided, nor have they completed to our knowledge, a detailed capture zone analysis to indicate whether current pumping actually creates an effective capture zone, as RID claims. If current pumping effectively contains the plume, then plume containment should not form a basis for approval of the ERA. On the other hand, if containment is not currently achieved, RID should analyze whether their proposed pumping scenario would completely capture the groundwater plume, both laterally and vertically. The RID wells were never designed or located to hydraulically contain the West Van Buren groundwater plume; simply changing the pumping scheme to provide an additional volume of water for potable purposes will not result in enhancing capture of the plume.

Doubts about containment are exacerbated by the fact that RID has provided little detail regarding extraction and flow zones for its wells, other than to indicate that "RID wells *probably* derive most of their water from the UAU."⁵⁷ Before constructing a \$130 million pump and treat system, some effort should be made to determine if RID's wells are extracting water from the appropriate levels of the aquifer or if they need further screening. This investigation should include, at a minimum, hydrological testing to determine the most permeable hydrostratigraphic zones and a depth-specific water quality profile.

⁵⁵ See, e.g., *ERA Work Plan*, Table 2, data for RID-110 (only PCE detected at levels above drinking water standards); data for RID-112 (only TCE detected at levels above drinking water standards).

⁵⁶ See, e.g., *ERA Work Plan*, Table 2, data for RID-107 and RID-108 (based on September 2008 sampling that included results for MTBE).

⁵⁷ *ERA Work Plan*, at 20 (emphasis added).

Additionally, the structural integrity of RID's wells must be evaluated. Some RID wells are screened across upper, middle, and lower aquifer units.⁵⁸ These wells almost certainly serve as a conduit for movement of contaminants under non-pumping conditions. Such conduit wells must be addressed because another result of Arizona's experience with WQARF reform was an increased understanding of cross-contamination caused by Arizona wells. The Groundwater Cleanup Task Force convened a subcommittee charged with studying and addressing well design and use. Included within the Task Force's final report were conclusions regarding the dangers of vertical cross-contamination.

Fifteen years of experience with Superfund groundwater cleanups has taught us that not only can remediation of contaminated aquifers be an expensive proposition, but it is all too often an impractical if not impossible task. We have learned that otherwise innocuous wells can act as vertical conduits for spreading contamination from one aquifer to another or from one portion of an aquifer to another (i.e., vertical cross-contamination).⁵⁹

Based upon Task Force recommendations, the State made numerous modifications designed to prevent and address vertical well cross-contamination.

RID's ERA proposes using RID's existing infrastructure for plume containment and remedial activities. But RID's groundwater pumping system is decades old. These wells were constructed before adoption of today's standards and practices designed to prevent vertical cross-contamination. Given the Ground Water Cleanup Task Force's findings on the importance of proper well construction to prevent cross-contamination, it is imperative that RID's existing wells be studied to ensure they do not inadvertently exacerbate groundwater contamination. RID indicates that it will evaluate seven of its wells to determine if sealing the bottom of the wells is appropriate.⁶⁰ This limited evaluation is entirely inadequate to address a problem of this magnitude. Cross-contamination can be a significant problem at wells such as RID's, which are decades old and screened across multiple aquifer units.

Similarly, seasonal groundwater pumping fluctuations could cause inadvertent cross-contamination and further water quality degradation. This phenomenon was documented by the United States Geological Survey (USGS) in Modesto, California with respect to irrigation practices and public water supply wells. The study led the USGS to conclude that:

[d]uring times of little or no pumping, water in the shallow part of the aquifer drains down the inside of the well and replaces old, unaffected water in the lower part of the aquifer that would otherwise dilute contaminants in the well. When the pump is briefly turned on, affected water simultaneously enters the

⁵⁸ *Implementation Plan*, at 19.

⁵⁹ Ground Water Cleanup Task Force Final Report (1996).

⁶⁰ *ERA Work Plan*, at 32-33.

well from both the shallow and deep part of the aquifer, temporarily increasing concentrations of contaminants.⁶¹

RID's historic pumping practices also appear to exhibit seasonal fluctuations. The effects of such operations could result in unintended consequences. The possibility of actually mobilizing contamination and decreasing water quality as a result of seasonal pumping fluctuations should be thoroughly analyzed and considered as part of the remedy selection process.

All of these questions regarding containment can and should be addressed through the normal WQARF process in support of a final remedy. For purposes of the ERA, though, the existence of these questions highlights the fact that RID has failed to demonstrate that its proposal will facilitate plume capture and reduce the scope of the ultimate site remedy. In fact, Honeywell has significant concerns that RID's proposal may make things worse, prolong remediation, and increase costs. Such concerns warrant disapproval of the ERA in favor of further consideration and investigation.

3. *The RID ERA would Increase, Rather than Decrease, the Cost and Scope of the West Van Buren Site Remedy.*

RID has not demonstrated that its proposal is cost-effective. In fact, RID's proposal is outrageously expensive because it is driven by the desire to sell potable water to cities in the West Valley, not by the relevant WQARF criteria applicable to remedial actions.

The only mention of cost in the revised ERA Work Plan is a cursory statement that the proposal is cost effective because "it predominantly uses existing RID wells, conveyances, and easements."⁶² In its cover letter, RID indicates that HDR Engineering was retained to provide "cost estimating services,"⁶³ but RID fails to provide even a general estimate of the costs associated with designing, constructing, operating and maintaining its proposed treatment system, making improvements to existing wells and canals, and related elements of its proposal. Such information would be necessary to satisfy the statutory criteria in any event, but it is even more critical here because RID is proposing that third parties fund this project willingly or as the result of litigation.

RID admits that upgrades and improvements to at least thirteen of its wells will be necessary.⁶⁴ It appears, though, that RID has done no more than a cursory evaluation of its system to determine if the wells, pumps, power supplies, electrical controls, piping, and other components of its system are capable of supporting continuous pumping at maximum extraction rates for the next thirty years. If significant improvements, repairs, and upgrades are required, it cannot be a foregone conclusion that it is feasible, reasonable, or cost-effective to use RID's

⁶¹ USGS Podcast, *Why Some Public-Supply Wells are More Vulnerable to Contamination Than Others*; see also USGS Fact Sheet 2009-3036, *Assessing the Vulnerability of Public-Supply Wells to Contamination: Central Valley Aquifer System near Modesto, California* (April 2009).

⁶² *ERA Work Plan*, at 11.

⁶³ RID Cover letter to Revised ERA Work Plan, at 3 (Feb. 4, 2010).

⁶⁴ *ERA Work Plan*, § 4.2.3.

system to address regional groundwater contamination. The technical memorandum attached to the ERA spells out just some of the many elements of RID's plan that will require major capital expenditures to repair, improve, or enlarge RID's current system:

- Two 54,000 gallon below grade tanks fitted with submersible pumps.
- Five 350 hp vertical turbine pumps.
- A prefilter system.
- Twenty-two Calgon Model 12 GAC Contactors
- A 252,000 gallon backwash system with supply pumps.
- A 252,000 gallon backwash waste equalization tank.
- Installation of 2,800 feet of 48-inch pipe to connect the Salt Canal to the treatment system, including a jack and bore crossing of RID's Main Canal.
- Piping of 1,700 feet of the Salt Canal.
- Installation of new motors, VOC volatilization control, well lines and flow meters at 13 RID wells.
- Repair, replacement and upgrading of electrical equipment at 13 RID wells.
- Three miles of new pipeline from RID Wells 89, 92, 95, and 100 to the Salt Canal that will each require a jack and bore crossing under a rail corridor.
- Over 1.5 miles of new ductile iron pipeline to connect Wells 109 and 110 to laterals that flow to the Main Canal that will each require a jack and bore crossing under a rail corridor.
- Twelve hundred feet of new pipeline to connect Well 105 to the Main Canal.⁶⁵

In truth, the only elements of RID's proposal that may not need to be repaired, upgraded, or constructed from scratch are the piped portions of the Salt Canal and the well holes themselves.

RID provided only limited cost information in its Implementation Plan. At that time, RID estimated the net present value of the ERA to be \$111 to \$130 million.⁶⁶ It is not clear whether that estimate was accurate at the time the Implementation Plan was prepared because RID has never provided a breakdown of its expected costs. Nor is it clear whether this estimate has changed as a result of the additional work performed by HDR Engineering since that time.

Numerous significant questions remain unanswered regarding RID's costs. For instance, RID estimates annual O&M costs of four to five million dollars. Yet RID gives no indication that it would operate or maintain its well or canal system any differently than it does today, except perhaps for altering the priority in which certain wells are pumped. RID has operated and maintained its wells and canal system since the 1920s in order to fulfill its obligation to supply water to its landowners, not to remediate groundwater contamination. Therefore, RID cannot charge third parties for normal O&M costs, such as pumping power, that it would have borne anyway in the absence of this remedy.⁶⁷

⁶⁵ HDR Engineering, Inc., *Technical Memo* (February 2, 2010).

⁶⁶ *Implementation Plan*, at 36.

⁶⁷ 8 A.A.R. at 1499 ("WQARF will not cover remedial action costs that would have been incurred if the release had not impacted the property or well"); *Santa Clara Valley Water District v. Olin Corp.*, 655 F. Supp. 2d 1048, 1058-

It is also apparent from visual observation that RID has not properly maintained its system. Above-ground canals and laterals have been allowed to deteriorate to the point that concrete walls have collapsed or degraded.⁶⁸ Without additional information, this raises the question of whether needed repairs, such as the replacement of pump motors, are being improperly charged to the ERA. The ERA should not serve as a vehicle for subsidizing the cost of operating RID's irrigation system. But absent more information, there is no way for ADEQ to determine what RID's \$96 million in O&M costs really includes. Because of these deficiencies RID has not demonstrated the cost-effectiveness of its proposed action and therefore, agency approval cannot be granted.

Nor is RID's proposal cost-effective from the standpoint of mass removal. As discussed above, RID's mass removal estimates likely are exaggerated. If RID achieves only 75% of its estimated mass removal in Phase I due to reduced pumping rates, VOC volatilization, and other factors, annual O&M costs alone will exceed \$1,700 per pound of mass removal.⁶⁹ If RID can pump its wells only half the year due to lack of demand, annual O&M costs will exceed \$2,600 per pound of mass removed. By comparison, O&M costs for the OU2 Interim Remedy have averaged about \$1,085 per pound of mass removed in recent years.⁷⁰ Clearly, RID's proposal is prohibitively expensive from an O&M cost standpoint, to say nothing of the capital costs associated with a new treatment system and significant upgrades to RID's well and distribution system.

ADEQ can consider all of these cost factors in more detail during a Feasibility Study to determine whether RID's proposal is cost-effective in light of the selected remedy. But for purposes of an ERA, RID has failed to demonstrate that its proposal is cost effective, a necessary criteria for ERA approval.

II. RID's Proposed ERA Does Not Comply With the Statutory Remedial Action Criteria.

A. RID Has Not Demonstrated That the Proposed ERA Is Otherwise Reasonable, Necessary, or Technically Feasible.

Although the rules do not dictate a full blown feasibility study, they do require technically feasible alternatives and do so in language very similar to that used in the feasibility study provisions applicable to final site remedies. The ERA must be "selected based upon best engineering, geological, or hydrogeological judgment following engineering, geological, or hydrogeological standards of practice" in consideration of the best available information

1060 (N.D. Cal. 2009) (costs associated with groundwater recharge, which water district had engaged in long before its response efforts began, could not be recovered under CERCLA).

⁶⁸ Exhibits 12-15.

⁶⁹ RID estimates it will remove 3,722 pounds of VOCs annually during Phase I operations, with operation and maintenance costs of up to \$5 million annually. *Implementation Plan*, at 36 and Table 2.

⁷⁰ In 2008, the OU2 Interim Remedy removed 993 pounds of VOCs, with operation and maintenance costs of \$1,082.59 per pound. In 2009, it removed 871 pounds of VOCs with operation and maintenance costs of \$1,086.11 per pound. Robert Frank, *personal communication with Manfred Plaschke, Conestoga Rovers and Associates*.

characterizing the site; best available scientific information concerning available remedial methods and technologies; and best available information regarding whether the technology or method could increase the scope or costs of possible remedies for the site or result in increased risk to public health or welfare or the environment.⁷¹

Design, implementation, and O&M requirements are set forth in rule, including and especially relevant to RID's proposal, those for water treatment.⁷² When an ERA includes water treatment facilities, the design must incorporate safeguards to protect public health and be approved by ADEQ prior to construction.⁷³ Additionally, a well owner constructing and operating water treatment must enter into a written construction and operation agreement with ADEQ⁷⁴ and provide an operations and maintenance plan to the community advisory board for comment and ADEQ for approval.⁷⁵

The feasibility and effectiveness of RID's ERA has not been demonstrated. There has been no demonstration that the ERA will actually capture the contaminated water and no demonstration that the ERA will actually contain the contaminated plume. There is a possibility that the proposed ERA will actually worsen the problem. Furthermore, RID has not submitted for review and comment its water treatment design and operations and maintenance plan. In fact, this \$130 million proposal is premised on nothing more than a "preliminary" evaluation and a "conceptual" implementation plan.⁷⁶

B. RID's Analysis of Alternative Remediation Methods and Technologies Is Inadequate.

The proponent of an ERA must select its remediation method or technology based upon the best available information characterizing the site, the best available information regarding available methods and technologies, and the best available information regarding whether the remedy will increase the scope or costs of a final remedy or increase risks to public health, welfare, or the environment.⁷⁷ RID has instead ignored readily available information that would illustrate the inadequacies of its plan and provided only a cursory evaluation of alternatives. Furthermore, RID analyzes each alternative with a view to whether it will facilitate the creation of a new potable water supply that RID can wholesale to various cities, a consideration that should not be the driving force behind an ERA.

In previously filed comments, several stakeholders have suggested that a reasonable remedy may not require use of any RID wells. Rather, new extraction wells would be designed and constructed to target the most highly contaminated areas of the plume. RID dismisses this option for several reasons but supplies no basis or data to support any of them.

⁷¹ A.A.C. § R18-16-405(B).

⁷² A.A.C. § R18-16-411.

⁷³ A.A.C. § R18-16-411(C).

⁷⁴ A.A.C. § R18-16-411(G).

⁷⁵ A.A.C. § R18-16-411(E).

⁷⁶ *Implementation Plan*, at ES-1.

⁷⁷ A.A.C. § R18-16-405(B).

First, RID sees few viable alternative well sites because there are only limited sites within practical distance of the RID canal system. RID provides absolutely no support for this conclusion. Furthermore, no requirement exists that an effective remedy for the West Van Buren Area use any part of RID's system. There are numerous other means of transporting water and many other end uses that do not involve RID at all.

Second, RID asserts that construction of new extraction wells and associated piping and treatment facilities would be prohibitively expensive. In light of the \$130 million price tag for RID's ERA, this objection is laughable.

Finally, RID argues that it would take too long to obtain access rights for the water system and pipeline easements. RID has similar issues with its own plan, including the need to obtain rights-of-way and access agreements from parties whom RID has named as defendants in its pending CERCLA suit. Given the public and private entities who have joined to work cooperatively on an alternative to RID's proposal and the existing properties, roads, and water transport systems they own or control, it is difficult to envision unreasonable delays due to access issues.

RID rejects wellhead treatment as an alternative, primarily because of allegedly limited space at many RID well sites. But there appears to be ample room at most of RID's well sites for wellhead treatment facilities, including those wells with the highest levels of contaminants:

- RID-95: Fenced area encompassing the well site is approximately 6,840 square feet.
- RID-92: 2,000 square feet
- RID-114: 6,000 square feet
- RID-106: 1,200 square feet

RID also ignores the possibility of using in-well treatment, which appears to be feasible in at least some RID wells.

Perhaps most significantly, RID does not mention the possibility of targeted treatment of those wells with the highest levels of contaminants. Whether through wellhead treatment, in-situ treatment, or a centralized ex-situ treatment facility, numerous reasonable options could be envisioned for targeting "hot spots" in the West Van Buren plume. This option could result in the targeted removal of contaminant mass at similar levels as RID's proposal, but with a much more simplified system and at a much lower cost.

C. RID's Early Response Action would not be "Early".

The remedy selection process will likely be completed before RID can construct its proposed ERA. RID's implementation schedule is hopelessly unrealistic, given the amount of work being proposed and the legal and financial impediments that RID faces. RID states in its implementation plan that the ERA will be initiated "once sufficient response action costs are

available from the PRPs”.⁷⁸ Based on discussions with dozens of parties who have been named in the RID complaint, however, settlements with anyone other than small or de minimis parties is highly unlikely. RID’s only other option to obtain third-party funding is through litigation, which will take years to complete. Optimistically, pursuit of funding through damages claims filed under CERCLA will delay implementation of RID’s proposal for at least five or six years. The timeline RID included in its ERA Workplan does not recognize the time needed for litigation. We have attached as Exhibit 16 a revision of RID’s timeline that illustrates the effect litigation will have on the ERA schedule. A Feasibility Study could be completed and a suitable remedy implemented in much less time and at a much lower cost, as Honeywell and other parties have proposed.

Second, even if funding is available, RID’s schedule remains unrealistic. Proposed new pipelines from wells along Van Buren Street to the Salt Canal will require jack and bore crossings of a major rail corridor. RID’s consultant indicates that it can take more than nine months to obtain an access license from the railway’s agent.⁷⁹ Other rights-of-way and access agreements also will take time to procure. But RID’s schedule includes only ninety days to obtain permits and access agreement.⁸⁰ RID also has scheduled just four months for construction of and improvements to wells and pipelines despite concerns from its own consultant that such work will be “challenging” due to heavy traffic and large vehicles using streets and rights-of-way and the existence of buried utilities.⁸¹

Departure from the ordinary WQARF remedy selection process is allowed only where earlier action is necessary. This ERA is not actually proposing earlier action. ADEQ and the regional parties can work through all of the steps toward selection of the final remedy for this site in less time than it will take RID to litigate and implement its proposed ERA. The final outcome of the remedy selection process will be a remedy that has been studied, fully analyzed, and compared to alternatives, has received full community input, and achieves all remedial objectives and goals for the site. The final outcome of an RID ERA, on the other hand, would be a large-scale public works project that benefits RID, but may not achieve any of the other remedial objectives or goals for the site.

III. RID’s Proposal Is Premised on an Erroneous View of its Water Rights.

RID’s current right to pump groundwater in the West Van Buren Area is premised on contracts it executed with the Salt River Project decades ago. Those contracts are due to expire by 2026. RID has taken the position that its right to pump from the West Van Buren Area does not expire in 2026, but is a perpetual right. Although Honeywell disagrees with RID and believes that SRP’s interpretation of these contracts is correct, Honeywell does not intend to involve itself in that dispute.

⁷⁸ *Implementation Plan*, at ES-8.

⁷⁹ HDR Engineering, Inc., *Technical Memo*, at 8 (February 2, 2010). Burlington Northern, owner of the rail corridor, has been named as a defendant in RID’s complaint.

⁸⁰ *ERA Work Plan*, Figure 15.

⁸¹ *Id.*; HDR Engineering, Inc., *Technical Memo*, at 8 (February 2, 2010).

For purposes of evaluating RID's proposed ERA, what matters is that RID has premised its entire remedy on groundwater rights that are at best disputed and almost certainly subject to litigation and that at worst are due to expire in a few years. Given its enormous cost, the proposed ERA is economically infeasible if project costs can only be amortized over a 10-15 year period. In fact, the costs of this project cannot be justified under any scenario if there is no certainty that pumping can continue for more than a few years.

The approval of the proposed ERA will do nothing to resolve RID's water right issues. Approval of the ERA in the face of RID's uncertain water rights will only further a proposal that is premised on legal rights that may not exist and that almost certainly will be the subject of time-consuming and costly litigation. A proposal based upon such uncertain legal rights is not reasonable or feasible as required for agency approval.

IV. Exportation of Drinking Water Resources Undermines Arizona Water Law and Policy.

Remedial actions, including ERAs, must be consistent with the Arizona Groundwater Code.⁸² RID has provided no explanation of how its proposal meets applicable requirements governing the extraction and transportation of groundwater out of the groundwater basin and out of SRP's service area.

The Arizona Groundwater Management Act grandfathered existing agricultural uses of groundwater. But one of the premises of the Act is that upon urbanization of agricultural lands, that groundwater will be available to municipal providers to serve those urbanized lands. RID's proposal is to export this groundwater away from those lands. The municipal water providers that will serve these lands in the future have a right to expect to access that groundwater, and have a right to object to its loss.

The proposed ERA is inconsistent with Arizona Department of Water Resources (ADWR) policy regarding incentives for use of remediated water. In 1997, the Arizona Legislature passed legislation to provide incentives to encourage the beneficial use of groundwater withdrawn as part of an approved remediation project. ADWR subsequently published a policy statement explaining the factors it would use to determine whether a remediation project is entitled to these incentives.⁸³ RID's proposal is inconsistent with several of these factors:

- ADWR's policy encourages the withdrawal of the least amount of groundwater necessary to facilitate a remediation project's goals. RID proposes to pump thousands of acre feet of clean water, which is not necessary to facilitate plume containment or contaminant removal and is "not prudent and efficient from a water management perspective."⁸⁴

⁸² A.R.S. § 49-282.06.

⁸³ ADWR, *Substantive Policy Statement: Remediated Groundwater Incentive for Conservation Requirement Accounting for the Second Management Plan* (June 14, 1999).

⁸⁴ *Id.* at 3.

- ADWR discourages the creation of new permanent end uses for remediated groundwater that would not have existed absent the statutory incentive.⁸⁵ RID seeks to create a new long-term end use by constructing a new potable water treatment and transmission system.
- ADWR encourages reinjection or recharge within the same aquifer or basin from which remediated water is withdrawn, or the replacement of existing groundwater uses in the basin with remediated groundwater.⁸⁶ RID seeks to transport groundwater out of the basin for use in a different basin.

V. RID's Pump and Treat Proposal Is Not the Presumptive Remedy for West Van Buren.

RID asserts that it is reasonable to expect its proposed ERA to become part of the final remedy for the West Van Buren Area because it uses a presumptive response strategy approved by USEPA.⁸⁷ RID also asserts that, because it is allegedly using a presumptive remedy, there is no need for detailed comparative analysis of other potential remedies.⁸⁸

RID mischaracterizes the nature of the proposed ERA and improperly applies USEPA guidance to justify its scheme. The purpose of the guidance cited by RID is not to eliminate consideration of other viable remedial alternatives, but to streamline the selection of remediation technologies once remedial objectives have been determined.⁸⁹ The guidance affects a single component of CERCLA's Feasibility Study process, and was not intended to justify the abbreviated, cursory review of alternatives presented in RID's ERA. The use of the presumptive technologies listed in this guidance is intended to simplify and streamline an ex-situ groundwater remedy selection process by:

- reducing the choices to relatively few technology types;
- eliminating the need for technology screening under the Feasibility Study;
- allowing, in some cases, selection among the presumptive technologies to be deferred to the remedial design stage;
- shifting the time and resources employed in remedy selection from ex-situ treatment to other, more fundamental aspects of the groundwater remedy; and
- facilitating pump and treat remedies for early actions, where appropriate.⁹⁰

RID relies on this guidance to justify using its pump and treat remedy as both the ERA and the final remedy for West Van Buren. That reliance is unfounded because nothing in USEPA's guidance suggests that such a large and expensive remedy must be accepted in the

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *Revised ERA*, at 7.

⁸⁸ Letter from David Kimball to Benjamin Grumbles, at 5 (January 20, 2010).

⁸⁹ USEPA, *Presumptive Response Strategies and Ex-Situ Treatment Technologies for Contaminated Ground Water at CERCLA Sites, Final Guidance*, EPA 540/R-96/023, at 1 (October 1996).

⁹⁰ *Id.* at 21.

absence of data and analysis supporting such a remedy. In fact, just the opposite is true because USEPA's guidance requires careful analysis to determine if groundwater extraction and treatment is appropriate:

- Site conditions should be carefully considered in a site conceptual model to determine factors affecting restoration of groundwater.⁹¹
 - RID provides only a cursory conceptual model that ignores numerous factors commonly evaluated in selecting a remedy.
- Remedial alternatives that can obtain the remedial objective of aquifer restoration should be developed and evaluated in detail in the Feasibility Study.⁹²
 - RID has summarily eliminated any other remedial alternatives with a cursory evaluation designed to further RID's business goals rather than meet remedial objectives.
- Pump and treat may not be appropriate for all portions of a given contaminant plume. Pump and treat, in combination with other methods, such as natural attenuation or in-situ treatment, often will have several advantages over pump and treat technology alone.⁹³
 - RID characterizes its selected remedy as the only one appropriate for West Van Buren, even though it will require treatment of enormous quantities of clean water, does not target the most contaminated RID wells until the second phase of the ERA, and ignores the use of less expensive and simpler remedial alternatives as appropriate in certain areas of the plume.

Furthermore, USEPA's guidance indicates that "early actions," similar to an ERA under WQARF, should be used "to reduce site risks (by preventing exposure to contaminated ground water and further migration of contaminants), eliminate immediate threats, and provide additional site data."⁹⁴ The types of actions USEPA considers appropriate for "early actions" includes plume containment, alternative water supplies, well head treatment, use restrictions, source removal and treatment, and containment or treatment of plume "hot spots." RID's proposal, a large and expensive water treatment facility, is a more comprehensive action that should be considered as a later, long-term remedy.⁹⁵

The USEPA guidance relied upon so heavily by RID only serves to establish pump and treat technology as a presumptive technology for aquifer restoration at appropriate sites. It does not establish RID's ERA as the presumptive remedy for West Van Buren, and it does not justify the construction of a \$130 million treatment system to treat groundwater to drinking water standards so that it can be sold by RID for a profit.

⁹¹ *Id.* at 3-4.

⁹² *Id.* at 1.

⁹³ *Id.*

⁹⁴ *Id.* at 7-8.

⁹⁵ *Id.*

For all of the above reasons, Honeywell believes that ADEQ must deny approval of RID's ERA. If you have any questions, please do not hesitate to call.

Sincerely,

Salmon, Lewis & Weldon, P.L.C.



By

Karen S. Gaylord

Enc.

cc: Benjamin H. Grumbles, ADEQ Director (via email)
Henry R. Darwin, ADEQ Assistant Director (via email)
Amanda Stone, ADEQ Director, Office of Waste Programs (via email)
Julie J. Riemenschneider, ADEQ Remedial Projects Section, Manager (via email)
Tom Byrne, Honeywell International Inc.
Troy Kennedy, Honeywell International Inc.
Robert Frank, CH2M Hill