MINUTES

INSTALLATION RESTORATION PROGRAM

RESTORATION ADVISORY BOARD MEETING

ABERDEEN PROVING GROUND, MARYLAND

THURSDAY, 30 OCTOBER 2003

7:00 p.m. – 9:30 p.m.

EDGEWOOD SENIOR CENTER

RESTORATION ADVISORY BOARD MEMBERS PRESENT AT THIS MEETING:

Mr. Kevin Barnaba
Mr. Roy Dietz
Mr. Jim Gravette (Maryland Department of the Environment)
Ms. Christine Grochowski (Community Co-Chair)
Mr. Ted Henry
Mr. Thomas McWilliams, Jr.
Ms. Mary Moses (Harford County Emergency Operations Center)
Mr. Ken Stachiw (Army Co-Chair)
Ms. Ruth Ann Young

RESTORATION ADVISORY BOARD MEMBERS NOT PRESENT AT THIS MEETING:

Ms. Mandi Elliott-Bird
Ms. Glenda Bowling
Mr. Arlen J. Crabb
Mr. Greg Kappler
Mr. Dan Pazdersky
Mr. Frank Vavra (U.S. Environmental Protection Agency)
Mr. Dennis Warwick

ENCLOSURES TO THESE MINUTES:

1: Roster of Meeting Attendees
2: Agenda
3: November and December 2003 Calendar of Events
4: Unexploded Ordnance (UXO) Incident Reports
5: Carroll Island and Graces Quarters Study Area Update Presentation Materials
6: Western Boundary Study Area Operable Unit 2 Perchlorate Update Presentation Materials

I. EXECUTIVE SUMMARY

Administrative Comments

Mr. Ken Stachiw (Chief, Directorate of Safety, Health and Environment (DSHE) Environmental Conservation and Restoration Division (ECRD)) reminded the RAB Members that the next RAB meeting would be held on 4 December 2003, due to Thanksgiving being on the last Thursday in November. The RAB Budget Meeting was held on 23 October 2003, with three RAB Members in attendance. Upon request, a meeting with Mr. Stachiw can be arranged to discuss budget issues. The Operations Security (OPSEC) Task Group meeting will be rescheduled for either November or December 2003, if possible. The annual RAB Site Tour will be scheduled for a Saturday in January 2003. A location will be determined based on RAB Member interest. The opening ribbon cutting ceremony for the Perryman Plant is scheduled for 7 November 2003. Mr. Stachiw noted that a new Army Initiative is calling for Guaranteed Fix Price Remediation Contracts (GFPR) for the IRP.

Carroll Island and Graces Quarters Study Area Update

On behalf of Mr. Don Green (DSHE ECRD Project Officer), Mr. Jason Ebrite (General Physics Corporation) provided an update on the shoreline stabilization efforts being completed in the Carroll Island and Graces Quarters Study Areas.

The Record of Decision (ROD) for the study areas identified shorelines requiring erosion controls based upon the location of historical operations and erosion rates. The eastern portions of Carroll Island and Graces Quarters are the predominant locations of impact and test areas most likely to contain chemical warfare materiel (CWM) and hazardous substances. The heaviest shoreline erosion occurs in these areas due to the south and southeast exposures and prevailing winds along those fetches.

The approach of the shoreline stabilization initiative was to evaluate existing site conditions and design datum to develop a shoreline stabilization design that achieves the goal of eliminating shoreline erosion while minimizing the impact to current site conditions and the Chesapeake Bay. Data points included onshore and near-shore topographic data to evaluate existing topography, wind and wave conditions by reach, and offshore borings to define substrate conditions. The design details considered the characteristics of existing shorelines, prevailing wind and wave conditions, bottom characteristics, and construction constraints. Five target areas were identified on Carroll Island and Graces Quarters and were subsequently divided into 22 sub-reaches. Sub-reach control techniques include a combination of the following: sills, segmented breakwaters, and revetments.

Additional design features included the integration of riparian buffer considerations on shoreline controls and future land uses. Signage consideration was given for both shoreline and regional marina applications. Wetlands design and revegetation is being coordinated with the U.S. Environmental Protection Agency (EPA) Environmental Response Team. During 2002, two-and three-dimensional wave tank trials occurred on scaled cross-sections of shoreline at the University of Delaware.

Mr. Ebrite provided a detailed pictorial review of the ongoing shoreline stabilization efforts at the Carroll Island and Graces Quarters Study Areas. The pictures depicted the different control techniques, construction activities, and damage resulting from Hurricane Isabel.

The presented schedule included offshore layout and construction at Carroll Island during the winter 2003, transition operations to Graces Quarters and working to completion during 2004, and completion of Carroll Island during 2005. A correspondence from the Maryland Department of the Environment (MDE) calls for a consideration of expansion of shoreline stabilization to include Submarine Island.

Western Boundary Study Area Operable Unit 2 Perchlorate Results

Mr. Paul Miller (Waterways Experiment Station) provided an update on the perchlorate detections in the Western Boundary Study Area Operable Unit 2. Soil and groundwater perchlorate sampling results were presented for sampling locations around the identified drum and anomaly locations.

II. OPENING REMARKS AND ADMINISTRATIVE COMMENTS

The October 2003 U.S. Army Garrison Aberdeen Proving Ground (APG) Installation Restoration Program (IRP) Restoration Advisory Board (RAB) meeting was called to order by Mr. Kenneth Stachiw (Chief, Directorate of Safety, Health and Environment (DSHE) Environmental Conservation and Restoration Division (ECRD); Army Co-Chair) at 7:00 p.m. on Thursday, 30 October 2003. The meeting took place at the Edgewood Senior Center located at 1000 Gateway Road in Edgewood, Maryland.

Enclosure 1 to these minutes is a meeting attendance list. RAB Members in attendance received an agenda (Enclosure 2), a RAB calendar of events for November and December 2003 (Enclosure 3), Unexploded Ordnance (UXO) Incident Reports (Enclosure 4), a copy of the Carroll Island and Graces Quarters Study Area Update presentation (Enclosure 5), and a copy of the Western Boundary Study Area Operable Unit 2 Perchlorate Results Update presentation (Enclosure 6).

Mr. Stachiw informed RAB Members that the next and last RAB meeting for 2003 is scheduled for 4 December 2003, due to the celebration of Thanksgiving on the last Thursday of November. Three RAB Members attended the Budget RAB Meeting, held on 23 October 2003. Arrangements can be made for RAB Members with concerns or questions pertaining to the Budget Meeting to meet with Mr. Stachiw or Ms. Karen Jobes. The Tier 3 Operations Security (OPSEC) Task Group meeting will be rescheduled, preferably before the end of the year. The annual RAB site tour will be scheduled for the third Saturday in January 2004, with the location determined based on RAB Member interest. January is a prime time for visits to Carroll Island and Graces Quarters. The ribbon cutting ceremony for the new Perryman Plant is scheduled for 7 November 2003 from 11:00 am to 12:00 pm, and includes lunch. RAB Members who would like to attend, but did not receive an invitation may contact Mr. Naren Desai (DSHE ECRD Project Officer) by 4 November 2003.

Mr. Stachiw stated that helicopter over flights have been conducted for an extensive look at shoreline erosion caused by Hurricane Isabel, and a report on the findings should be released in the near future. A more comprehensive report on the findings will be prepared and released in several months. Carroll Island faired the storm well, while Westwood areas lost approximately 10 to 20 feet of shoreline, and burn pits were unearthed. Mr. Desai stated that an area of the Bush River bomb disposal site experienced a wash out. Ordnance was not exposed, and the area has been repaired.

Mr. Stachiw informed RAB Members that a new Guaranteed Fixed Price Remediation (GFPR) Contract might change the IRP, and will be discussed later in the meeting.

Mr. Ted Henry (RAB Member) requested that a sign up sheet be passed around to RAB Members to determine days or evenings that they are not available for the Tier 3 meeting. Mr. Stachiw stated that the meeting would most likely occur in the evening.

After confirming RAB Members had no further comments, Mr. Stachiw introduced Mr. Jason Ebrite (General Physics Corporation) to provide an update on the shoreline stabilization efforts in the Carroll Island and Graces Quarters Study Areas on behalf of Mr. Don Green (DSHE ECRD Project Officer).

III. CARROLL ISLAND AND GRACES QUARTERS STUDY AREA UPDATE

Mr. Ebrite stated that Operable Unit (OU) B in the Carroll Island and Graces Quarters study area is primarily focused on the shoreline stabilization initiative to address historical areas of contamination along an approximate 26,000 linear feet of shoreline. The update consists primarily of photographic depictions of activities for the past year in the study area, including construction activities and the effects of Hurricane Isabel.

Mr. Ebrite displayed a slide depicting the locations of Graces Quarters and Carroll Island in the Edgewood Area of APG with respect to other APG study areas. A Record of Decision (ROD) drives Carroll Island shoreline activity from Carroll Island to Graces Quarters. Carroll Island consisted of two Ous. OUA included 13 disposal areas, from which buried waste has been recovered as required in the ROD. OUB addresses ubiquitous contamination, excluding groundwater, throughout the study area. Shoreline stabilization was selected for remediation, based upon the past utilization of 855 acres of land located at a low elevation for unexploded ordnance (UXO) and chemical contamination training areas.

Mr. Ebrite displayed a slide defining a priority shoreline. The ROD identified shorelines requiring erosion controls based upon the location of historical operations and erosion rates. Areas of heavy energy transfer on Carroll Island had maximum erosion rates of approximately 14 feet per year in localized sections, while remaining areas experienced loss at rates of 4 to 5 feet per year. Eastern portions of Carroll Island and Graces Quarters are most likely to contain chemical warfare materiel (CWM) and hazardous substances. The heaviest shoreline erosion at Carroll Island and Graces Quarters occurs in those areas, as a result of southern and southeastern exposures, and prevailing winds along those fetches. Most contamination is located in areas most exposed to weather.

Mr. Ebrite displayed a slide depicting Carroll Island priority shorelines. Carroll Island is located in the mouth of the Gunpowder River, with the north, northeast, and northwest exposures relatively sheltered. Violent winter northwest winds do not have a large fetch up the Gunpowder River, while the southern exposure has a several hundred-mile fetch up the Chesapeake Bay greatly affected by weather. Reach A shoreline stabilization on Carroll Island is necessary due to a nearby test grid and test field. Reaches B, C, and D surround the areas affected by low impact munitions, and the largest amount of testing. Remaining fields on Carroll Island were sites of previous chemical dispersion. Reach A stabilization is complete. Reach D is nearly complete, with work still needed to return marshes to the lower island point. Construction activity has extended into the 10^{th} month at Carroll Island.

Mr. Ebrite displayed a slide of Graces Quarters priority shorelines. Graces Quarters is essentially a large single peninsula consisting of high bluffs. A hard clay bluff on the western side of the peninsula, approximately 40 feet in elevation, experienced a large amount of erosion due to Hurricane Isabel. Historically the bluff had been stable enough to support large trees. The area of erosion extends from the boundary fence and projects down the extent of the peninsula.

Mr. Ebrite displayed a slide detailing the approach for remediation at Graces Quarters and Carroll Island. Field data collection for design occurred in Winter 2001, followed by design work through 2002. The design was finalized and construction began in 2003. The approach was to evaluate existing site conditions and design datum to develop a shoreline stabilization design that achieves the goal of eliminating shoreline erosion, while minimizing the impact to current site conditions and the Chesapeake Bay. It is intended to be an eco-friendly, environmentally sensitive, cost-effective means of shoreline stabilization, in contrast to a one size fits all approach whereby a large amount of stone would have been

universally applied to shorelines. Graces Quarters and Carroll Island shorelines were divided into 50-foot subsections, with site-specific conditions evaluated as part of the design approach.

Mr. Ebrite displayed a slide listing types of data collected to evaluate site-specific conditions. Topographic data, including onshore, offshore, and near shore data, were collected with a Global Positioning System (GPS) to paint a topographic picture of the near shore and offshore environment. Wind and wave analysis was conducted to evaluate wind and wave conditions by reach. Conditions in Reach A are dramatically different than conditions in Reach C, and variables need to be evaluated. Offshore geotechnical data were obtained though offshore borings to define substrate conditions, and overcome construction obstacles.

Mr. Ebrite displayed a slide depicting offshore boring activities in 2001. A barge was used to import a drilling rig to Carroll Island.

Mr. Ebrite displayed slide listing design details and features for shoreline stabilization. The five target areas on Carroll Island and Graces Quarters are divided into 22 sub-reaches based on characteristics of existing shorelines, prevailing wind and wave conditions, bottom characteristics, and construction restraints. Sub-reach control techniques include a combination of sills, segmented breakwaters, and revetments, which involve a number of variables. The size of building material, such as stone size, can vary from 300 pounds to over 2,000 pounds based on design assessment. Sills, segmented breakwaters, and revetments are all used based upon fetch length, substrate condition, and target zone.

Mr. Ebrite stated that other design features include the integration of riparian buffer considerations on shoreline controls, and future land uses as a means of supplementing the benefit of shoreline stabilization efforts. Signage considerations for both shoreline and regional marina applications are desired to exceed current signage requirements. Wetland design and revegetation will be coordinated with the US Environmental Protection Agency (USEPA) Environmental Response Team (ERT). Within the coming year, USEPA ERT will develop a revegetation strategy, and revegetate portions of the project affected by sand back-building and other conditions.

Mr. Ebrite displayed a slide depicting a color-coded transition between revetment, segmented sill, and offshore breakwater applications in Reaches B, C, and D on Carroll Island. Mr. Ebrite pointed out a 300- to 600-pound revetment in Reach B, a 600- to 900-pound sill structure, a green area denoting a 2,000-pound breakwater structure, a 2,000-pound overlay, and a 900-pound sill structure. Each section of Carroll Island is constructed in a manner to minimize environmental impact and costs, and maximize the effect.

Mr. Ebrite displayed a slide depicting the eroded peninsula as an hourglass bottleneck shape at weir and lower island points on Carroll Island. Two applications of light armor stone placed in the early 1990s were undesigned and undersized. A long area of subsurface control with an estimated five-year lifespan was constructed in 1991 to arrest constant shoreline attack, and prevent disposal site materials from entering the bay. Wave attacks had flattened control material by 1997, and the Army redressed the area with smaller stone to provide protection during remediation efforts on the island's interior.

Mr. Ebrite stated that shoreline stabilization efforts began with the excavation of previous materials, and the overlay of a 2,000-pound armor layer. The area was affected by a heavy southern exposure, including heavy wave attacks accompanied by sustained summer southerly winds, and hurricane season flood tides. The solid stone barrier lacked an energy absorption capacity, and deflected waves eroded the shoreline at a rate of approximately 18 feet per year, during the last six to seven years. Current shoreline mobilization found the eroded area to have a land width of approximately 2 feet. An emergency action in Fall 2002

installed a 20-foot wide, 8-inch thick cobble beach on both sides of the peninsula to sustain the area through Winter 2002, and has weathered well. The displayed slide shows the transition from revetment, to a 2,000-pound breakwater, to a sanded beach backfill, to revegetation coordinated with ERT, and back to a 2,000-pound revetment structure.

Mr. Henry asked for the amount of acreage south of the neck. Mr. Ebrite stated that the shoreline length is approximately 4,000 linear feet around the southern area of the neck, encompassing approximately 100 to 150 acres.

Mr. Ebrite displayed a slide depicting instrumentation, structure, and monitoring in three dimensional wave tank trials conducted at the University of Delaware. The studies evaluated design efforts to reduce stone size and marine environmental impact.

Mr. Ebrite announced that several photographs would be shown to provide a pictorial account of the shoreline stabilization activities. A photograph of the Fall 2002 interior portion between the breakwaters of the eroded peninsula on Carroll Island was displayed. Approximately 4 feet of water is present at the interior portion during the summer. North to northwest winds, and near-dry conditions are present in the October to November time frame. The area is subject to tidal influence during the fall period. A near dry, low tide fall period was advantageous for the installation of two filter cloth layers under structures, and other associated activities.

Mr. Ebrite displayed a photograph of a snow and ice blanket hard enough to support equipment on Reach A on in February 2003. Revetment and onsite land construction techniques, including the importation and deposition of sand and gravel parallel to the marshes, are visible. Haul road construction on the Carroll Island shoreline involved the importation of materials to a remote area.

Mr. Ebrite displayed a photograph of a barge in Reach A in April 2003. The remaining 1,500 to 2,000 feet of shoreline in Reach A had been completed, but repair work was needed for work completed during ice storms. The barge remains onsite for signage drop piling, filter placement, and armor stone placement.

Mr. Ebrite displayed a photograph of Reach A shoreline completed to reestablish its appearance. An excavator on a barge, low elevation sill structures, and the interior arch can be seen. Historically, Reach A was an attractive sandy beach, until it was deteriorated by erosion. Stabilization structures were completed, and approximately 600 tons of sand were imported and deposited behind a breakwater gap to allow natural beach build up and stabilization. Attempts to mechanically move the sand and revegetate the area might have resulted in further scouring. Sand moved and shifted throughout the following five months, reached a level of stability, and currently looks natural.

Mr. Ebrite noted that 42 osprey platforms will be assembled and installed onsite. Approximately 200 poles will be driven to increase signage, with osprey boxes placed on select poles.

Mr. Ebrite displayed a photograph intended to show sill structure. Sills are relatively small structures, approximately 300 to 600 pounds, and 5 feet tall. The structure is exposed by 1 foot at normal mean high tide. A massive wall of stone is not needed to impact wave energy. Submerged structures disrupt submerged portions of waves, and decrease incoming wave energy.

Mr. Ebrite displayed a photograph of repair work on Reach A showing impact structures constructed 6 inches above design height. A photograph of a midsummer mid-tide event was displayed showing a northeast wind accompanying 1 ½ foot inbound waves, with still water present behind the structure.

Structures with gaps between them are able to decrease wave impact when water passes through them. Within 3 to 4 weeks of offshore structure completion, the scouring action of wave attack is minimized enough to allow natural revegetation.

Mr. Ebrite displayed a photograph of an imported sand road built in 2002 on the south side of Carroll Island. A 2,000-foot long haul road was constructed offshore and parallel to the shoreline at an elevation of +2 feet. During summer of 2003 remobilization, the road was drawn out to the back of the structure, and dressed with a ½ to 1 back-slope. Filter cloth was installed at approximately 100 feet at a time to maintain control of the cloth and stability.

Mr. Ebrite displayed a photograph of a shoreline depicting the same concept as the previous photograph. A sand and gravel road constructed parallel to the shoreline is divided, with 1/3 located on the shoreline, and 2/3 seaward. The road was dressed with filter cloth as construction progressed. Approximately 150 to 200 feet of the roadbed were exposed at a time to minimize wave attack.

Mr. Ebrite displayed a photograph of a dressed construction road to show how it begins to take shape once it and the filter bed have been dressed with filter cloth, and before armor stone is deposited.

Mr. Ebrite displayed a photograph of a 1,000-foot section off the northern end of Reach D on Carroll Island. Stakes mark the locations of offshore breakwaters to be constructed, which are currently completed. The dressing of an armor layer over a filter bed layer, and a haul road constructed 2 feet above design grade in the revetment section can be seen.

Mr. Ebrite displayed a photograph of filter stone. Filter stone is an integral component of all structures that sit atop a bed of stone. A filter stone layer is at minimum 1-foot thick, and an average weight of 170 to 300 pounds. The layer in the photograph protrudes by 5 feet beyond the toe of the armor stone to help maintain structural stability from wave attack.

Mr. Ebrite displayed another photograph of a Reach D section. The haul road had been removed down to the grade found in the back of the structure to avoid sand collection behind the structure. This was done to enable material reuse, and avoid the creation of an impoundment. Haul roads constructed at the required height, and left untouched would create a dam around natural marshes. Precipitation could then flood the marsh, and deterioration would occur without natural drainage. To avoid flooding, haul roads are reduced down to the gradient compatible with the structure as soon as possible.

Mr. Ebrite noted that natural drainage areas with constant flow are located throughout Carroll Island. As a result, structures and roads in those areas must be excavated. A cast pipe is installed, and the structure is then rebuilt around the pipe to maintain the required drainage pattern.

Mr. Ebrite displayed a photograph of a 6-week-old revetment structure at an elevation of 2 feet. The structure becomes flooded under storm surges, and the road behind the structure is revegetating. The haul road was subjected to wave attack, scoured clean, and has reached a level of stability. Within the next year, revegetation should extend through the structure, and create the appearance of a natural shoreline.

Mr. Ebrite displayed a photograph depicting the transition from revetment to a small breakwater structure. Breakwaters are applied selectively to areas where a natural beach or natural environment is to be preserved to maintain beach access and avoid rock deposition on the shoreline. Returns are present at points of transition to prevent storm damage and island flooding. A lack of returns during flooding events would cause water to travel behind structures, and scouring to occur. The photograph also shows control stakes and elevation controls, installed at 14 points on Carroll Island.

Mr. Henry asked for the difference between sills and segmented breakwaters. Mr. Ebrite stated that scale marks the difference between the two, including structure material size, width, height, and offset distance. Offset distance is the distance from the shoreline to the back of the structure. Sills are constructed of smaller materials on a smaller scale, while breakwaters are larger scale with materials in the 2,000-pound range.

Mr. Ebrite displayed a photograph of a 2,000-pound revetment transition to a 2,000-pound breakwater structure. The structure is approximately 22 feet wide at the base, 8 feet wide at the crest, and 4 feet high in elevation. The 3,000 pounds of toe stone extend approximately 3 feet on either side. The photograph is a current representation of the previous hourglass shape of Carroll Island's peninsula. Mr. Ebrite pointed out the downgradient area where undersized material was placed and eventually scoured out. A cove has formed in the area behind the constructed breakwater. The cove was in a different location in 1998, and had eroded by 60 to 70 feet since 1998. The cobble beach area was also pointed out.

Mr. Ebrite displayed a photograph depicting breakwater construction techniques. The filter stone bed was pointed out. Breakwater armored structures are constructed one stone at a time. The perimeter is raised one stone at a time, with the largest material available as toe stones. The structure is designed to be very porous, rough, jagged, and open to intercept and absorb wave energy without reverberation, while allowing the wave to pass through.

Mr. Ebrite displayed a photograph of an excavator moving stone on a shoreline. Two to three excavators are used together to load dump trucks, and deliver materials to remote sites. The excavator is shown placing filter stone on top of a section previously dressed with filter cloth. Enough filter stone must be laid to prevent filter cloth loss to the environment.

Mr. Ebrite displayed a photograph of shoreline heading southward on Reach D. Reach D began approximately 6,000 feet to the north; extended down through coves, across the armored section, to the breakwater, and transitioned to a series of revetments. The photograph is intended to show the construction of the haul road parallel to the shoreline. UXO clearance was done in advance of road construction. A filter cloth layer two courses thick exists below the filter stone. Filter stone can be seen projecting seaward, with armor stone lining the shoreline.

Mr. Ebrite displayed a photograph of the stone placement on a filter bed. The shoreline has a 1 ½ to 1 back slope, a 4-foot projection toe outside the armor, and is undergoing core armor replacement.

Mr. Ebrite displayed a photograph of a low ground pressure dump truck, capable of holding 1/3 of a tandem load of material by weight capacity. They are loaded as needed, and brought into areas where ground pressure is too low to support a road and regular dump trucks.

Mr. Ebrite displayed photographs of excavators working on Reach D, and of a completed revetment section on Reach D.

Mr. Ebrite displayed a photograph of Hurricane Isabel preparations on Carroll Island. The highest point on Carroll Island is approximately 10 feet in elevation. All job sites underwent tremendous storm preparations. A massive amount of cobble 13 feet high was deposited on Carroll Island at a land elevation of 9.5 feet, and three dump trucks, three excavators, a trailer, a welding trailer, boats, and fuel tanks were placed on top. The storm track entered the area from the south-southwest, and headed northeast up the mouth of the bay. Carroll Island was inaccessible for 2 days, due to the influx of water onto the island up to the base of the rock pile, and a build-up of debris along the fence and gate.

Mr. Ebrite displayed a photograph of a road located toward the lower island at an elevation of 8.5 feet. Several tide events over a period of 36 hours brought water upward onto the island. Float lines were produced from each event in decreasing severity, with an intermediate float line visible at the bottom of the photograph.

Mr. Ebrite displayed a photograph of a damaged sign. Signs historically placed on the island at an elevation of 4 feet succumbed to wave energy. Nearly 200 signs were pushed a distance of 30 to 50 feet from wave action, and eventually disintegrated.

Mr. Ebrite displayed another photograph of the beach where 600 tons of sand had been imported for natural stabilization. The natural beach zone survived Hurricane Isabel, and is stable.

Mr. Ebrite displayed a photograph of an osprey nest on a shoreline. Nest boxes are fabricated in pieces. Thin walled piping is used for weight management and portability. The basket is constructed of expanded metal custom bent at a 1-inch angle into circles, with 48-inch rings placed on top. The perch is angled, with a piece of wood bolted on top of the pole for the birds.

Mr. Ebrite displayed a photograph of breakwaters on the southern portion of Reach D after Hurricane Isabel. Objects that were portable, floatable, or unsecured were removed by the influx of water. The float line on trees in the distance was pointed out. Structures, including the sand and cobble haul roads built parallel to the beach behind the structure, were unaffected. Fine material overlaying the sand and gravel bed were scoured away. Areas that had undergone stabilization efforts faired well.

Mr. Ebrite displayed a photograph of a small bluff section on Graces Quarters. Fallen trees and erosion resulted from Hurricane Isabel. The bluffs, normally not affected by flooding, experienced wave attack and storm surge flooding. The area was previously surveyed in a storm surge, and was found to experience 8.5 feet of standing water.

Mr. Ebrite displayed a photograph of a damaged sign on Graces Quarters, and a photograph of a tree uprooted and lost as a result of Hurricane Isabel. A base plate from a 4.2-inch mortar can be seen wedged in the root ball of the tree.

Mr. Ebrite displayed a slide listing the upcoming schedule for Carroll Island and Graces Quarters. Offshore layout and construction at Carroll Island will continue through the winter of 2003 to take advantage of low water periods. Approximately 1,000 to 1,500 feet of offshore construction needs to be completed on Carroll Island, along with 4,000 to 5,000 feet of offshore construction at Graces Quarters. In 2004, operations will transition to Graces Quarters and remain until completion. In 2005, operations will return to Carroll Island to complete remaining work, and continue quality assurance (QA), and quality control (QC) on all structures. In a further action, the Maryland Department of the Environment (MDE) and USEPA issued a guidance correspondence to the IRP commenting on shoreline design and the potential for risk associated with the gap between Carroll Point and Carroll Island. The connecting area between the points was lost to erosion in 1968 or 1969, and the gap is currently 1,100 feet wide. The gap is proximal to the impact range at Carroll Island, which has a history of UXO in the bedding soil between Carroll Point and Submarine Island. USEPA is concerned with UXO exposure. The IRP is currently considering either additional shoreline stabilization, or increased signage and fencing protocols.

Mr. Henry asked for the approximate location of Submarine Island on a map. Mr. Ebrite displayed a map and pointed out Carroll Point and the location of Submarine Island 1,000 feet from the point. The perimeter of Submarine Island is approximately 3,800 feet, with the highest elevation at 5 feet above

mean sea level. The island is predominantly a marsh with some small, forested areas, and is the true Carroll Point.

Mr. Henry asked if the gap and UXO concern was addressed in the original ROD. Mr. Ebrite stated that it was not. The course of action has not yet been decided upon.

Mr. Henry asked for the type of documentation or comment period that would be associated with any course of action. Mr. Ebrite stated that it is currently unknown, as the correspondence resulted from design review, and was received within the past few months. Mr. Stachiw stated that discussions with the USEPA would be conducted to evaluate whether the issue is already covered, or if a ROD change will be necessary. A public meeting may be held concerning the issue.

Mr. Stachiw stated that, in his understanding, all the pits had been excavated. Current protection encompasses small amounts of rounds, glassware, and debris that may break loose with erosion. Mr. Stachiw asked if the pits have been completed. Mr. Ebrite stated that they had been completed.

Mr. Henry asked if there were any groundwater issues at Carroll Island, and if sampling had been conducted. Mr. Ebrite stated that there were no groundwater issues at Carroll Island, but issues do exist at Graces Quarters.

After confirming the RAB Members had no further comments, Mr. Stachiw introduced Mr. Paul Miller (Waterways Experiment Station (WES)) to provide an update on the Western Boundary Study Operable Unit 2 Perchlorate Results.

IV. WESTERN BOUNDARY STUDY AREA OPERABLE UNIT 2 PERCHLORATE RESULTS

Mr. Miller displayed a slide depicting the locations of Drums 1 through 7 in OU2 between Maryland Boulevard and Aberdeen Boulevard, in the Aberdeen Area of APG. Previous training locations, City of Aberdeen Production Wells, and boundaries were pointed out. Production wells pump approximately 1.4 million gallons per day (mgd).

Mr. Miller displayed a slide depicting Drum 1 soil and groundwater perchlorate results. The unsaturated zone from the surface to an approximate depth of 40 feet was pointed out. Higher concentrations of perchlorate were found at shallow depths around the drum. Soil perchlorate concentrations in the hundreds of parts per billion (ppb) range were found primarily within a depth of 10 feet, and radius of 3 feet from the drum. Perchlorate in the groundwater was detected at concentrations as high as 24 ppb. Perchlorate tends to be present in the upper part of the aquifer, with low concentrations detected lower in the aquifer. There are some exceptions to this trend. The majority of the drums were buried 55-gallon drums, with some containing expended items, and others empty.

Mr. Miller displayed a slide depicting Drum 2 soil and groundwater perchlorate results. Drum 2 is located along Aberdeen Boulevard. Higher soil perchlorate levels, with a maximum concentration of 10,000 ppb, were found generally within a 3-foot radius from the drum. Higher groundwater perchlorate concentrations were detected in the upper part of the aquifer, with a maximum of 12 ppb, while low concentrations were detected in the lower portion of the aquifer.

Mr. Stachiw stated that the nature of contamination is still not entirely understood. One scenario suggests that contamination has not yet leaked down to the groundwater, and current groundwater perchlorate detections have originated from a different source. Removal action on the first 10 feet of soil may be

needed to prevent future contamination. One trail of groundwater contamination moving downward from 10 feet to the east of Drum 2 to the aquifer was observed, but the majority of concentration has not moved as deep.

Mr. Miller displayed several slides depicting soil and groundwater perchlorate results at Drum 3. Drum 3 was the site of a previous groundwater perchlorate detection of 3,500 ppb. High perchlorate levels have been seen extending from the drum down to the water table. Excluding the detection of 3,500 ppb, high detections of perchlorate, 58 and 39 ppb, were found in the groundwater. Sampling was originally conducted in four directions at 3 and 10 feet from the drum. As proposed in the last RAB Meeting, perchlorate sampling was conducted in the general direction of groundwater flow, to the northwest, north and northeast at distances of 20 and 200 feet. Perchlorate was detected at a concentration of 22 ppb in the groundwater at a distance of 200 feet to the north. Perchlorate was not detected in the soil 200 feet north of Drum 3.

Ms. Christine Grochowski (RAB Member, Community Co-Chair) asked that the sampling at a distance of 200 feet be pointed out. Mr. Miller stated that originally sampling was conducted 3 and 10 feet from Drum 3. Due to the flow of groundwater in a northern direction, a sampling arc was conducted at farther distances to evaluate the extent of contamination travel in groundwater.

Ms. Grochowski asked if contamination found at a distance of 200 feet from Drum 3 could be influenced by Drum 7 contamination. Mr. Miller stated that approximately 10 geoprobes were done, and groundwater detections found beneath a source may not be indicative of contamination from that source. It is doubtful that Drum 7 had an influencing role in the sampling results.

Mr. Miller displayed a slide depicting the locations of groundwater perchlorate results in the vicinity of Drum 3. The highest level of perchlorate was detected at a concentration of 22 ppb, 200 feet to the north of Drum 3.

Mr. Stachiw asked if five months had passed between sampling rounds, and if groundwater had traveled approximately 30 to 40 feet within that time frame. Mr. Miller stated that sampling was conducted in April and September 2003, and that groundwater movement of approximately 30 to 40 feet would be reasonable.

Mr. Stachiw asked if the previous perchlorate concentration of 3,500 ppb was detected 10 feet north of Drum 3 in the second round of sampling. Mr. Miller stated that the second run of sampling yielded a perchlorate concentration of 1.6 ppb in that location.

Ms. Grochowski stated that the perchlorate concentration is known to be high, and questioned if the areas of known contamination could be removed now to prevent future groundwater contamination. Mr. Stachiw acknowledged Ms. Grochowski's question.

Mr. Henry asked if there is any opinion on the comparison between Drum 1 and Drum 3, where perchlorate levels at Drum 1 are seen at depths of 5 and 10 feet, and Drum 3 contamination is seen in a trail. Mr. Miller stated that perchlorate concentrations are a function of time of the original perchlorate contamination and other factors, such as soil conductivity. Drum 3 is located in a depression, causing water to gather around it, while Drum 1 is not. Water collection and infiltration around Drum 3 could be the driving force for the perchlorate contamination trail.

Mr. Stachiw noted that it is unknown if all the drums were placed simultaneously, or if they began to leak simultaneously. The historical record is unknown.

Ms. Grochowski asked if the drums are currently empty. Mr. Desai stated that they are currently empty. Some drums were originally empty, while others, such as Drum 2, had contained expended munitions. Mr. Miller stated that upon discovery, Drum 1 and Drum 3 were empty.

Mr. Henry stated that Drum 1 and Drum 2 seem to have significant perchlorate sources near the surface, while Drum 3 appears to have either a flow difference, soil chemistry difference, or may have been present longer. Mr. Miller stated that the two drums displaying a continuum of contamination to the water table are Drum 3 and Drum 6, with Drum 6 exhibiting much lower levels. The high levels observed are generally located at a depth of 10 feet or above.

Mr. Miller displayed a slide depicting Drum 3 soil and groundwater perchlorate results northeast of the drum at distances of 20 and 200 feet. Low detections and non-detects were found in the soil, with groundwater results in the single digits. Sampling results to the northwest of Drum 3 yielded non-detects in the soil, with comparable groundwater results.

Mr. Miller displayed a map depicting groundwater perchlorate results near Drum 3, and results from nearby production wells along the boundary. The highest detection in a production well was 1.5 ppb in Well 3. Perchlorate in finished water was detected at 0.37 ppb. Several new "PER" wells were installed, and are marked on the map by the double crosses. Intense perchlorate sampling following the 3,500 ppb detection has not found concentrations remotely near the levels of the 3,500-ppb spike. Sampling data has not indicated a large perchlorate plume in the area.

Mr. Miller displayed a slide depicting Drum 4 soil and groundwater perchlorate results. Observation well PLP 18, located nearby, had detections of 20 to 23 ppb in April 2001, and is currently down to 4 ppb. A concentration of 260 ppb was found in the soil directly below Drum 4, while groundwater detections were low.

Mr. Miller displayed a slide depicting Drum 5 soil and groundwater perchlorate results. Drum 5 is located near Drum 2 along Aberdeen Boulevard. High concentrations were detected in the immediate vicinity of the drum, while groundwater levels were low and in the single digits.

Mr. Miller displayed a slide depicting Drum 6 soil and groundwater perchlorate results. Not all directions were sampled at Drums 6 and 7, due to a lack of geoprobes. A contamination trail from Drum 6 to the groundwater was detected with the data obtained. A fairly high concentration of 36 ppb was detected in the upper portion of the aquifer.

Mr. Miller displayed a slide depicting Drum 7 soil and groundwater perchlorate results. High concentrations, with a maximum of 15,000 ppb, were detected in soil below the drum to a depth of 20 feet. Additional geoprobes will be installed. Groundwater perchlorate levels were low.

Mr. Miller displayed a slide depicting additional locations currently under investigation. Sampling is being conducted around Anomaly 1. Several other anomalies have been identified. Anomaly 5 was identified as two small buried containers. Anomaly 6 is a pipe protruding from concrete. Gravel drain areas were identified as drainage for kitchen wastewater. Work is currently ongoing.

Mr. Roy Dietz (RAB Member) noted that maps presented in the Graces Quarter and Carroll Island update, and in the perchlorate update, were much more detailed than maps at previous RAB Meetings. Mr. Stachiw stated that the maps are more detailed to convey information, but are also stamped for restricted use.

Mr. Stachiw stated that, with regard to Ms. Grochowski's suggestion to remove soil immediately surrounding the drums, removal should be targeted at a diameter of 5 feet and depth of 10 feet around the drums. The suggestion will be sent up the Chain of Command, as Department of Defense (DoD) approval is required for that type of removal action. The question will be put forth if the removal action can be done, and if an alternate means of funding can be used. Drums with contamination deeper than 10 feet would need more extensive removal action.

Mr. Desai stated that backfill and the installation of plastic covers at drum sites were completed to help prevent the further spreading of contamination. Ms. Grochowski asked for the size of the plastic covers. Mr. Scott Dobson (EA Engineering) stated that the covers were 20 square feet.

Mr. Henry asked for the distance, in feet, between Drum 3 and the cluster of City of Aberdeen production (CAP) wells directly north of it. Mr. Miller stated that Drum 3 is approximately 900 feet from Well 4, and approximately 1,100 to 1,200 feet from Wells 2 and 3.

Mr. Henry asked if groundwater around Drum 7 is pulled toward the northeast. Mr. Miller stated that groundwater might be pulled toward Well 11, but that the exact direction is not known. Mr. Henry asked if the rate of groundwater movement was 100 feet per year. Mr. Miller confirmed the rate as 100 feet per year, with variations possible, and an increase in rate near wells.

Mr. Henry asked, with regard to Drum 7, if a prediction of how long it would take for a perchlorate concentration of 15,000 ppb to pass through the soil to the groundwater could be made. Mr. Miller stated that a prediction could not be made.

Mr. Henry expressed concern that once perchlorate contamination around Drum 7 reaches the groundwater, it would then reach CAP wells within a few years, and contaminate the City of Aberdeen's water. Mr. Miller stated that contamination migrates downward through a relatively small area, and upon reaching the aquifer would be subjected to mechanical dispersion, resulting in concentration gradient dispersion. Vertical movement through the soil and aquifer will also disperse contamination. Once contamination approaches the CAP wells, generally from one direction, contamination will further be diluted.

Mr. Henry stated that three drums have perchlorate concentrations of 10,000 to 15,000 ppb within a depth of 10 feet. Several assumptions may have been made in considering that Drum 3 began with a similar level, and concentrations have been detected 200 feet away from the source. Mr. Miller stated that high concentrations are present, with the highest groundwater concentrations detected at Drum 3. Mr. Desai stated that monitoring wells have been installed, but do not mimic exact geoprobe results. Monitoring well results are generally all single digits.

Mr. Henry stated neither geoprobes nor monitoring wells would help the City of Aberdeen drinking water wells through dilution unless the source is removed. Mr. Stachiw stated that a solution has not been projected yet, but some dilution, to an unknown extent, will occur. The total amount of contamination around Drum 3 is still unknown, and the concentration of 3,500 ppb was in a small area.

Mr. Henry suggested that sequential sampling be conducted on soil borings, due to the wide variation in soil concentrations detected. Mr. Miller stated that soil is more likely to contain concentration variations than groundwater.

Ms. Grochowski stated that a gamble is being taken with the City of Aberdeen's drinking water by continuing testing for several more years. Ms. Grochowski suggested removal action around the three drums with the highest detected concentrations. Mr. Stachiw agreed with the suggestion, and stated that a request for action will be made to the DoD.

Mr. Henry asked for an explanation of voluntary funding for removal action. Mr. Stachiw stated that funding might be achieved through voluntary programs. For example, the natural resources program distributes bird boxes by volunteer. An investigation into what is allowable will need to be performed.

Mr. Henry asked if a cost estimate for the magnitude of soil removal to a depth of 10 feet has been made. Mr. Desai stated that some estimates have been made, but are not extensive. The Drum 3 cost estimate is approximately $35,000 to $40,000, but the total cost for three areas should not exceed $100,000. Permission for the removal action is a greater issue than monetary concern.

Ms. Grochowski expressed that it should be understood that removal action would not be a complete solution to the problem. Mr. Stachiw agreed and stated that removal action would serve to prevent future problems.

Mr. Rich Isaac (Army Environmental Center (AEC)) asked if there are concentration trends in the CAP wells. Mr. Miller stated that concentrations are generally decreasing. Wells with higher concentrations, such as CAP Well 3 with a maximum detection of 2.9 ppb, has a concentration now of about 2 ppb. CAP Well 9, located on-post, had an original concentration of 5 ppb, and is currently approximately 2 ppb.

Mr. Henry asked if CAP Well 9 is located on Aberdeen Boulevard. Mr. Miller confirmed the location on Gadsen Road, near Aberdeen Boulevard.

Mr. Henry asked if the monitoring well detections of 1.3 and 1.7 ppb were located near Drum 3. Mr. Miller stated that the detections were from Drum 3 and the boundary monitoring well, approximately 500 feet away.

Mr. Isaac asked if a time frame estimate of contaminant migration to the water table has been made. Mr. Miller stated that the time frame is shorter than 10 to 15 years. A leachate test should be performed on the soils to get a more accurate estimate.

Mr. Isaac asked for an explanation as to why the perchlorate appears to be bound up in soil under Drum 3. Mr. Miller stated that not enough information is known to offer an explanation. There is no documentation on the drums, the time frame they were present, and the history. Perchlorate is inert and mobile, and does not typically bind to material. The soil type under Drum 3 may be a reason for the concentration build up and migration.

Mr. Henry stated that Mr. Frank Vavra (USEPA) had mentioned conducting leachate tests at the previous RAB Meeting. Mr. Desai stated that samples will be shipped to the EPA, but do not contain contamination. Additional bore samples where contamination is present may have to be collected.

Ms. Ruth Ann Young (RAB Member) asked how long it would take for the findings to be reported. Mr. Desai stated that the time frame is dependant upon the laboratory. Ms. Young stated that the City of Aberdeen should not have to pay additional fees for their drinking water as a result of drum contamination clean up.

Ms. Grochowski stated that she would like to obtain a non-restricted version of the presentation, and asked if the public will be given handouts. Mr. Stachiw stated that a non-restricted version would be supplied to Ms. Grochowski, and the same version could be made available to the public.

Ms. Young asked if any recent information has been provided to the City of Aberdeen Department of Public Works. Mr. Desai stated that it had been provided.

Mr. Isaac stated that the Army is trying to develop a perchlorate regulation, but must gain permission from Army Headquarters, who must get permission from the DoD. Interim measures are being devised to stop further contamination while a standard is developed.

Mr. Henry asked if the DoD is working on its own standard. Mr. Isaac stated that the DoD is not. The National Academy of Sciences is evaluating risk data to obtain a number for the EPA to promulgate.

Ms. Grochowski reiterated that soil removal action should be conducted as an interim action to prevent future groundwater contamination. There will be less contamination present when a regulatory limit is finally decided upon. Ms. Grochowski asked what type of pressure could be exerted for the implementation of removal action. Mr. Stachiw stated that the issue would be presented as rapidly as possible.

Ms. Grochowski asked if scrubbed copies could be made available at the meeting's conclusion. Mr. Stachiw stated they would be made available. Ms. Young stated that she would need copies of the September and October 2003 RAB presentations.

V. INTERMISSION

At 8:40 p.m., upon the conclusion of the Western Boundary OU2 perchlorate results, Mr. Stachiw announced a brief intermission. At 8:50 p.m., the meeting resumed.

VI. ARMY INITIATIVE FOR FIXED PRICE REMEDIATION CONTRACT

Mr. Stachiw reported that a new Army Initiative would award Guaranteed Fixed Price Remediation (GFPR) Contracts for the IRP in the 2004 fiscal year (FY). Approximately 40 percent will be awarded in FY04, and 40 percent in FY05. A GFPR Contract is awarded for partial or complete remediation of the Installation at a fixed price. For instance, a contract may be issued to remediate APG, obtain RODs, complete clean up, and reach the response-complete level for a set amount of funding over a specific period of time. The contract would be guaranteed, should an unforeseen event, such as new standards, occur. Financial backing will be provided for job completion. The current understanding is that the entire APG Installation is scheduled to go under the GFPR Contracts, by September 2004.

Mr. Stachiw stated that the GFPR Contract might have limited guarantees, due to the unknown nature of many areas, such as the Edgewood Area. A guarantee in those areas might not be financially viable, and a Full Fixed Price Remediation Contract may be utilized instead. Many remediation contracts, such as the General Physics, and Weston contracts, are already Fixed Price Contracts. New contract predictions are hard to make, other than there will be a new contractor, and at least some of the work will be guaranteed.

Mr. Stachiw noted that a large amount of time would be spent in writing the scope of work. AEC has produced a handout with questions and answers pertaining to the contracts. RAB Members were encouraged to pass around copies, and review them for discussion at the December 2003 RAB Meeting.

Mr. Stachiw stated that, in accordance with the document, the Installation itself is liable to see that projects are completed. The contract will be awarded from Ft. Eustis, Virginia, and a team will be assembled to award the contract.

Mr. Stachiw explained that the scope of work would determine changes to be made in the program, and will give a large amount of flexibility to the contractor. The way in which the contract is written would largely affect the way in which the IRP can deal with contractors. As long as contractors are doing their work for the set amount, the IRP cannot offer input or changes. Should contractors not achieve their goals, they can be held responsible.

Mr. Stachiw stated that the Army projects a lesser amount of oversight by issuing half of the current funding for salaries for next year, and half for the following year. Oversight of the project would be granted to one or two people, instead of the current six or seven. The IRP may not get smaller as a result of the contract, but it is projected that AEC may have more direct oversight.

Mr. Stachiw stated that the contracts could be beneficial to the IRP if they function as expected. Contractors would be available with funding and an insurance policy that would be directed by the IRP, MDE, and RAB. The Army should want the Installation to be as clean as possible after the contract is awarded. However, if the contract is awarded in such a way as to allow the contractor freedom to negotiate, then contractors may attempt to push for no further action to maximize their profits. From an APG perspective, if funding is available for the work, contractors are expected to do the best work possible.

Mr. Stachiw stated that the GFPR contracts could work well in post-ROD situations, when clean up levels have already been determined. Mr. Stachiw explained that if GFPR contracts are issued prior to a ROD, then contractors might be more prone to follow a cheaper solution, as opposed to a more appropriate solution, in the absence of those guidances. GFPR contracts for pre-ROD sites could create a contentious situation between contractors and the IRP.

Mr. Stachiw stated that unsubstantiated information suggests that the Army is given credit for clean up once the contract is awarded. In the Army's perspective, once the contract is awarded, the clean up is done, and the contractor is responsible for the action. This information needs to be verified.

Mr. Stachiw noted that the new GFPR contracts would result in a downside where current expertise could be lost. New contracts may result in a loss or change in staff.

Mr. Henry asked for perspective on the RAB-contractor relationship. The RAB functions through the leverage that the government has responsibility to the public, and maintains dialog through an open process. RABs without open dialog do not function well, and the resulting clean up is ineffective. Mr. Henry expressed concern that a private company driven by profit has no responsibility to the RAB, and the RAB has no leverage over the company. Mr. Stachiw stated that the company would have no responsibility to the RAB should the contract be worded such that the Installation has no leverage in the contract. Mr. Stachiw reiterated that the way in which the scope of work is worded is very critical.

Mr. Thomas McWilliams (RAB Member) asked, if the clean up is considered done once the contract is awarded, what oversight will ensure that the contract is completed. Mr. Stachiw stated that the details are unknown. The contracts are advantageous because higher levels of the Army apparently get credit for remediation completion. Lower levels will still monitor contractors and their activities, though their authority will need to be determined. Contract renegotiations may be necessary, and are very expensive.

Mr. Dietz asked who would write the scope of work. Mr. Desai stated that the AEC is forming a team consisting of them, their own consultant, and one person from the Installation.

Mr. McWilliams asked if there would be separate contracts for the Edgewood and Aberdeen areas. Mr. Desai stated that the types, and numbers of contracts would be decided at the planning meeting for writing the scope of work. Mr. Stachiw stated that the greatest amount of difficulty would be in contract negotiations, and the number of constraints limiting contractor incentives. Currently, contractors may complete contracts under the amount they were contracted for, with a goal of winning the difference as profit in court. Contracts must have a balance between the contractor incentive to properly complete the work, and their profit. Contractors are unable to obtain more money for contracts that are fixed price, and must complete the project within that limit.

Mr. Henry asked if the contracts would include Operations and Maintenance (O&M). Mr. Desai stated that O&M has been a topic of discussion, with regard to long term monitoring, and the incentive for contractors to optimize plant operations.

Mr. Henry asked for the agency the GFPR contract idea came from. Mr. Stachiw stated that the idea came from industry and their approach to business.

Mr. McWilliams asked if the Installation was considering any potential contractors. Mr. Stachiw stated that AEC has ideas on large firms, but there are local contractors capable of meeting those goals. The contractors will have a degree of freedom to obtain RODs, as long as they are within cost. The IRP has not been granted that freedom because of its inability to provide a guarantee.

Mr. McWilliams expressed concern over the amount of time, possibly 10 to 15 years, that contractors would take to execute a contract. Mr. Stachiw stated that the contract would be written to include a time frame for completion, and certain goals to be reached. Completion will be required for 2011. The Army will be unable to dictate the methods contractors use to complete their work.

Mr. McWilliams asked what would occur if cleanup is needed after contractors have completed their work and departed. Mr. Stachiw stated that it may occur, there may glitches, and revisions may be needed. The insurance package may require contractors to return and maintain the work.

Mr. Henry asked if the lump sum the contract is based on includes the insurance package. Mr. Stachiw stated that it would incorporate an insurance package. Mr. Henry speculated that the insurance package might comprise half of the award amount due to the number of unknowns.

Mr. Henry noted that he did not see a difference between the number of smaller contracts that would result from breaking down of the main GFPR contract, and current contracts. Mr. Stachiw stated that the current contracts seem efficient without changing to GFPR.

Mr. Dietz asked if the lowest bidder, or a company with experience would be awarded the contract. Mr. Desai stated that company qualifications would be considered for those bidding on the proposal.

Mr. Henry asked if the contract must be awarded to the lowest company bid received below the government bid. Mr. Stachiw stated that contracts are not required to be awarded below the government bid, and may be awarded over the government bid. Mr. Henry asked if a middle bid might be selected. Mr. Stachiw indicated that the award might depend on the contract wording. Some contracts require the lowest bid, and others require the most objective. In general, the award is based on a combination of the bid price and qualifications package offered.

Mr. Stachiw reiterated that GFPR contracts have the potential for changing the IRP, and possibly the RAB. Many people are not content with the issue, and suggestions and ideas on the issue are greatly appreciated.

Mr. Desai noted that the scope of work listed on a handout distributed to RAB Members has already been awarded. Mr. Stachiw stated that in general, approximately 10 to 13 percent of the IRP cost has been saved.

Mr. Henry expressed concern about contractors who may voice complaints that their professional judgment will be questioned. Mr. Stachiw noted the concern.

Mr. McWilliams asked for the meaning of PBC on the handouts. Mr. Desai stated that it is a performance-based contract. Mr. Stachiw stated that PBCs require payment upon job completion.

Mr. Stachiw informed RAB Members that Dr. Nasrin Begum and Ms. Loretta McCullah have resigned from RAB. Letters of thanks for their service will be sent to them. Vacancies on the RAB may need to be filled in the near future.

VII. CLOSING REMARKS

At 9:45 p.m., after confirming that no one present had further questions, Mr. Stachiw adjourned the meeting. The next APG IRP RAB Meeting will be held on Thursday, 4 December 2003 at 7:00 pm in the Edgewood Senior Center. The tentative topic for discussion is the O-Field Study Area.