CCLP Repair and Improvement Agreement

Imported Water Committee
October 27, 2011
Background

- Cracked panels
- CVWD canal re-operation
- Electric power to check structures
Cracked Panels

- Found during inspection of new canal sections
- Possible reasons for cracks
  - Canal operations and lack of storage
  - Flow measurement and weir maintenance
  - Repeated canal inspections
  - Pockets of clay soils
- CVWD, Water Authority, and USBR agreed on a defined number of most seriously damaged panels to repair
  - 395 panels; less than 0.4% of total number of panels
Solar Power to Check Structures

- Check structures 14 and 23 use solar power
  - Remote locations
  - Permanent power installation cost was high
- Operation and maintenance problems
- Canal re-operation and new operating criteria
Recommended Agreement

- CVWD agrees to abide by operating procedures to avoid future cracked panels
- CVWD provides flow data to OM&R Committee to monitor adherence to operating procedures
- If in the future CVWD operates canal outside of operating procedures and panel cracks occur, OM&R Committee decides responsibility for repairing panels
- Water Authority pays for repair of cracked panels
Recommended Agreement (Cont.)

- USBR reimburses the project for technical and administrative support costs
- CVWD pays for installation of commercial power to Check Structure 23
- Check Structure 14 is removed from use
- Water Authority is relieved from performance requirements for existing solar power at check structures 14 and 23
- Weir will not be modified
- State releases retention back to Water Authority
Proposed Agreement Costs and Benefits

- **Costs**
  - SDCWA pays estimated $1.4 million to repair panels
  - CVWD pays estimated $690,000 for commercial power to Check Structure 23

- **Benefits**
  - SDCWA receives $960,000 retained state funds
  - SDCWA receives Reclamation services valued at $150,000
  - New operating procedures reduce risk of future cracking
    - CVWD provides operating data to OM&R Committee
  - SDCWA is relieved from solar power performance criteria
  - No additional project cost to modify weir
  - Reduced O&M costs
Staff Recommendation:

- Authorize the General Manager to enter into an agreement with the Coachella Valley Water District to repair cracked panels and make other improvements on the Coachella Canal Lining Project.
Annual Update Process

- Seek input from Board
  - Staff sought input from:
    - Member agency general managers
    - Member agency legislative liaisons
- Information item in October
- Adoption in December
Expanded Format

- Summaries added to the beginning of each section
  - Outlines general policy relating to section
Imported Water Supply

- Added under Imported Water Supply (p.4, 5)
- Water Authority supports legislation that:
  - Requires MWD member agencies to have take-or-pay contracts with MWD committing to pay MWD’s fixed costs of Delta improvements
  - Requires MWD to enter into take-or-pay contracts with member agencies before committing to pay portion of Delta fix
Imported Water Supply

- Added under Imported Water Supply (p. 6)
- Water Authority opposes legislation that:
  - Transfers control of the State Water Project to MWD or to other water contractor entities of which MWD is a member
Local Water Resources

- Added under Local Water Resources (page 8)
- Water Authority supports legislation that:
  - Encourages the use of rainwater capture and alternative water sources in commercial and residential landscapes
  - Encourages the use of recycled water in commercial and residential settings
Water Facilities/Facility Improvement

- Added under Water Facilities/Facility Improvement (page 11)
- Water Authority supports legislation that:
  - Recognizes water agencies as emergency responders
Biological and Habitat Preservation

- Added under Biological and Habitat Preservation (page 17)
- Water Authority opposes legislation that:
  - Imposes a “utility user fee” or “surcharge” on water for the purposes of financing open space/habitat preservation, restoration, or creation.
Power Supply

- Added under Power Supply (page 22)
- Water Authority supports legislation that:
  - Provides funding for renewable energy sources, such as in-line hydro, solar, wind, and off-stream pumped storage facilities
HR 1340 (Young) CCR Mailings - Support

- Removes requirement in Clean Water Act that water agencies mail Consumer Confidence Reports to their customers
- Provides that information be provided online
- Will save member agencies mailing costs
HR 1907 (Calvert) Habitat Conservation - Support

- Provides federal loans for habitat conservation associated with water infrastructure projects
- Saves local cash resources for actual construction costs
- Legislative Policy Guideline – Water Facilities/Facility Improvement, Support, No. 7, page 9
Liebert Cassidy Whitmore Agreement

- The original contract – executed July 2009
- The contract is for an amount ‘not to exceed’, not for a set time frame
- The original contract was not to exceed $50,000
- Since June of 2010 we have incurred $50,000 for legal representation for personnel matters. Following are the expenditures for each fiscal year listed:
  - FY10 = $ 0
  - FY11 = $16K
  - FY12 to date = $34K
The requested increase of $100,000 allows for current, and projected, representation for employment relations matters and for upcoming labor contract negotiations.

We therefore seek approval to increase the contract amount.
San Vicente Dam Raise

Engineering & Operations Committee Tour

October 13, 2011
Carlsbad Desalination Project

- **50 mgd desalination project being developed by Poseidon**
  - Located at the Encina Power Station using existing intake and discharge structures
  - 56,000 acre-feet annually of new, highly reliable water supply, fully permitted
  - Approximately $570 M construction and $295 M financing and other costs
  - Financed by Tax Exempt Private Activity Bonds and Private Equity

- **Seawater Desalination identified as part of diversified supply portfolio**
  - Selected by Board as Preferred Alternative for future supply in 2003 Master Plan PEIR
  - Included in 2005 and 2010 Urban Water Management Plan

- **Originally structured as direct purchases by 9 member agencies**
  - Avoided cost pricing was not financially feasible
  - 9 member agencies requested Water Authority replace them as purchaser of water
  - Water Authority agreed to consider direct Water Purchase Agreement with Poseidon
San Diego County's 2020 Water Supply Portfolio
(based on the adopted 2010 Urban Water Management Plan)

Total = 779 TAF

- Metropolitan Water District: 231 TAF (30%)
- Imperial Irrigation District Transfer: 190 TAF (24%)
- Seawater Desalination: 56 TAF (7%)
- Local Surface Water: 44 TAF (6%)
- Recycled Water: 48 TAF (6%)
- All American & Coachella Canal Lining: 27 TAF (4%)
- Groundwater: 23 TAF (3%)
- Conservation (existing and additional): 103 TAF (13%)

80 TAF (10%)
103 TAF (13%)
44 TAF (6%)
56 TAF (7%)
27 TAF (4%)
48 TAF (6%)
231 TAF (30%)
190 TAF (24%)
Total = 779 TAF
Cost of the Next Increment of Local Supply

Actual Proposed San Diego Region Project Unit Costs - $/AF

(Before incentives, grants, or netting out avoided costs
2011 Dollars unless otherwise noted

- Carlsbad (Poseidon): ~ $1,865
- Mission Basin Narrows: $1,751
- Otay River: $2,128
- North City IPR *: $2,190 (2005$)
- El Monte Valley IPR *: $2,300
- Camp Pendleton Desalination: $1,938 (100 mgd), $2,387 (50 mgd)

* Cost of re-treatment not included

Brackish Groundwater: gray
Indirect Potable Reuse: blue
Seawater Desalination: orange
July 2010 Term Sheet: Negotiation & Approval Process

- **Conditions precedent to negotiating an Agreement**
  - Poseidon documents equity investor commitment
    - Cash equity required to sell bonds
    - Ensures Water Authority negotiates with the right party at the table
  - Poseidon & Water Authority cancel all previous Confidentiality Agreements
  - Commitment to terminate existing WPAs and release claims
    - Applies to Poseidon and 9 member agencies with WPAs

- **Conditions precedent to Board consideration of final agreement**
  - Water Authority conduct due diligence
    - Financial, technical, and legal
  - Price of water is finalized with the exception of interest rate of debt
  - All construction and operating agreements signed
  - Draft financing documents finalized and accepted by Water Authority
  - Only marketing Private Activity Bonds remains
Status of Conditions Precedent for Negotiation of WPA

- Water Authority Board Approved Term Sheet
- Water Authority develop first draft of WPA
- Poseidon/Water Authority cancel all prior Confidentiality Agreements
- Poseidon provides binding equity investor commitment
- Poseidon documents intent to cancel existing WPA
Member Agencies document intent to cancel existing WPAs

- Carlsbad
- Oceanside
- Olivenhain
- Rainbow
- Rincon
- Santa Fe ID
- Sweetwater Authority
- Vallecitos
- Valley Center
Elements of a Water Purchase Agreement

- **Project Execution**
  - What is being built?
  - Who is building it?
  - How are they building it and when will that be complete?
  - How do we know if the facilities are working properly and the project is complete?
  - Ensuring everyone gets what they agreed to pay for?
  - How is it being financed and who is responsible for what?

- **Project Operation**
  - What is the project producing?
  - Who is operating what?
  - How reliable is it producing?
  - Is it being maintained properly?
  - Assigning blame if it doesn't work properly?
  - How is the price of water calculated and updated?
  - What is the process for payment?
  - How is the plant upgraded during operation and who pays for it and how much?
Roles In A Water Purchase Agreement

- **Water Authority** is the sole purchaser and will take delivery of water at a contractually defined price
  - Review and comment role during design and construction
  - Payment for delivered water only
  - 56,000 AF annually if delivered at acceptable water quality
  - Monthly billing payments
  - Term of agreement is 30 years
  - Up to 3 years extension to make up for lost sales from uncontrollable events

- **Poseidon** will permit, design, construct, finance, own, operate, maintain and manage the project and produce and deliver water to the Water Authority
  - Provide performance securities to Water Authority for financing and operation
  - Meet contractual water quality standards or be subject to damages
  - Deliver a minimum amount quarterly or be subject to damages
  - Maintain the plant and facilities in a manner that meets the performance standards
  - Meet all permit requirements
### Why a Water Purchase Agreement?

**Transfer Major Risks To Private Developer**

<table>
<thead>
<tr>
<th>Risk Description</th>
<th>Poseidon &amp; Investors</th>
<th>Water Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Construction Risk</strong>—that facility is not completed on time, on cost and according to design standards</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Permitting Risk</strong>—that current permit and environmental mitigation requirements increase</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Change in Law Risk</strong>—that future unanticipated laws or regulations increase operating costs</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>Technology Risk</strong>—that the plant technology does not perform as expected</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Output Risk</strong>—that the plant produces less than the projected volume of water</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Operating Margin Risk</strong>—that the price of water is not adequate to generate enough revenue to pay expenditures</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>MWD Subsidy Risk</strong>—that action by Water Authority or failure to meet performance requirements results in termination of MWD SDP Agreement</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

San Diego County Water Authority
Carlsbad Desalination Project
Proposed Aqueduct Connection Facilities

Desal Plant

Legend
- New Connection Facility
- Existing Aqueduct Facility
- Existing Facility Used for Desal Conveyance
Poseidon Role In Project Execution

- **Design and construction of desalination plant, conveyance pipeline and appurtenant facilities**
  - Through Engineering Procurement and Construction (EPC) contract between Poseidon and Kiewit-Shea joint venture

- **Finance planning, design and construction**
  - Development period capital
  - Private Activity Bonds
  - Construction Equity

- **Operate the Desalination Plant, Product Water Pump station and conveyance line**
  - Through contract with IDE Technologies

- **Obtain Water Supply Permit from Calif Dept of Public Health and comply with all other regulatory permits**
  - Water Authority will work with Poseidon to amend Water Authority DPH permit

- **Pass Acceptance Testing**
  - Water Authority makes no payments for water until all tests are passed
Water Authority Role In Project Execution

- Right to review, comment and inspect to ensure compliance with Contractual Terms
  - Higher level of review and approval in pipeline and connection facilities due to likelihood of early ownership of those facilities per 2010 Term Sheet
  - Need to ensure we receive what we pay for

- Water Authority will oversee improvements on Second Aqueduct and at Twin Oaks Water Treatment Plant
  - Modifications to existing Water Authority facilities best managed by Water Authority

- Approve process to ensure plant and pipeline meet Water Authority acceptance testing and water quality criteria
  - Water Authority makes no payments for water until all tests are passed

- Access to all Facilities
  - Includes Water Authority staff and consultants
  - Construction monitoring and reporting
## Key Tasks To Complete Draft WPA

<table>
<thead>
<tr>
<th>Task</th>
<th>Status</th>
<th>Responsibility</th>
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<tbody>
<tr>
<td>Provision of EPC Contract to Water Authority</td>
<td>provided</td>
<td>Water Authority</td>
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<tr>
<td>Review of EPC Contract by Water Authority</td>
<td>In-progress</td>
<td>Water Authority comment, Poseidon respond to comments</td>
</tr>
<tr>
<td>Finalizing Performance guarantees and Water Quality requirements</td>
<td>In-progress</td>
<td>Water Authority and Poseidon</td>
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<tr>
<td>Provision of O&amp;M Agreement to Water Authority</td>
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<td>Poseidon</td>
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<td>Review of O&amp;M Agreement</td>
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<td>Water Authority, Poseidon to respond to comments</td>
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<tr>
<td>Task</td>
<td>Status</td>
<td>Responsibility</td>
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<tr>
<td>Agreement for Poseidon management activities during operations</td>
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<td>Poseidon</td>
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<tr>
<td>Review and approve Management Agreement</td>
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<tr>
<td>Corporate-level due diligence</td>
<td>In-progress</td>
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<tr>
<td>Project-level due diligence</td>
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<tr>
<td>Drafting of WPA and supporting documents</td>
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## Poseidon Tasks To Complete Draft WPA

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<th>Task</th>
<th>Status</th>
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<tr>
<td>Obtain Private Activity Bond Volume Cap</td>
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<td>Bond Indenture</td>
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<td>Bond Sizing runs</td>
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<tr>
<td>Report of Independent Engineer</td>
<td>Draft in-progress</td>
<td>Poseidon</td>
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<tr>
<td>Review Financing Documents</td>
<td>Not provided</td>
<td>Water Authority review, Poseidon respond to comments</td>
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</table>
## Key Tasks To Complete Draft WPA

<table>
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<th>Status</th>
<th>Responsibility</th>
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<tr>
<td>Rating agency schedule</td>
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<td>Draft rating agency presentation</td>
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<tr>
<td>Pipeline Ownership and Financing</td>
<td>In-progress</td>
<td>Water Authority and Poseidon</td>
</tr>
<tr>
<td>Negotiate and finalize WPA</td>
<td>Commence in November 2011</td>
<td>Water Authority and Poseidon</td>
</tr>
<tr>
<td>Planning for Water Authority Distribution Improvements</td>
<td>In-progress</td>
<td>Water Authority</td>
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</table>
Demolish and remove one of the two existing 42-in pipe trains and replace with new 54-in pipe train to accommodate additional product water flow from Carlsbad Desal Project.

Existing Pipeline 3 in the reach between the new desal connection at San Marcos and Twin Oaks will require rehabilitation/relining to safely operate under the proposed desal pumping condition.

New chemical feed facilities are required at TOVWTP to maintain required disinfection residuals. This will require new chem feed piping from existing chem storage at TOVWTP and pumping/injection/analyzing facilities near the new connection at Twin Oaks clear wells.
Carlsbad Desalination Project
Water Purchase Agreement Pre-Approval Activities/Project

Water Authority Distribution System Improvements

Pipeline 3 Condition Assessment
- Rehab/repair strategy
- Budget
- Implementation schedule
- Outside services for technical analysis, pipe investigations

Facility Planning for Aqueduct Connection Facilities
- Facility Requirements
- Budget
- Implementation schedule

WPA - Contract Language/Appendix for Conveyance Pipeline
- Define completion level for pipeline plans/specs to be included in WPA
- Define operations coordination
- Define Water Authority oversight role in design/construction
- Updated transient analysis

TOVWTP Improvements
- Contract amendments with CH2M-Hill

Water Quality
- Refine WQ parameters
- Blending requirements
- Nitrification impacts
- Disinfection residual analysis
Current Status of Work

- Water Authority completing first draft of WPA
  - Initiating work to complete project description and cost for distribution system improvements
  - Continuing due diligence and analysis on pricing structure

- Poseidon Selected Kiewit-Shea as contractor and negotiated EPC (Design-Build) Contract
  - Received final construction and operations pricing
  - Construction cost results in 5% increase in price of water from July 2010 estimate
    - Water Authority due diligence confirmed appropriateness of procurement and competitive market based pricing
Questions?
Agenda

- Updated price of water from Poseidon
- Breakdown of the cost of desalination
- Estimating the unit supply cost of desalination
- Projected impact of desalination on supply mix
- Estimate of potential rate impact
- Conclusions
Updated Prices from Poseidon

Term sheet pricing provided on July 28, 2010
Updated pricing was provided on July 21, 2011
Results in a five percent increase in the price of water

<table>
<thead>
<tr>
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<th>CY 2011</th>
<th>CY 2016</th>
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<tbody>
<tr>
<td>Term Sheet Estimate</td>
<td>$1,778/AF</td>
<td>$1,942/AF</td>
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<td>Updated Estimate</td>
<td>$1,865/AF</td>
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<td>Variance</td>
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<td>+5%</td>
<td>+5%</td>
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For Planning Purposes Only
Breakdown of the Cost of Desalination (CY 2016)

- **Capital Charge ($1,057/AF)**
  - Capital Budget
  - Interest Rate
  - Return on Equity

- **Electricity Charge ($468/AF)**
  - Poseidon takes consumption risk
  - WA takes price risk
  - WA has right to supply power

- **O&M Charge ($509/AF)**
  - Fixed and variable components
  - Review and acceptance of initial operating budget
  - Escalation with CPI

- **Capital** 52%
- **Electricity** 23%
- **O&M** 25%

For Planning Purposes Only
Estimating Future Unit Supply Cost of Desal

**CY 2016**

**Direct costs**

- Poseidon’s updated unit price for treated water - $2,034/AF
  - Deduction for value of treatment – ($268/AF)
  - Pipeline configuration ($0/AF - $74/AF)

**Indirect costs**

- Capital cost of distribution improvements ($24/AF to $64/AF)
  - Pipeline #3 and TOVWTP modifications

- Twin Oaks operational impact ($80/AF to $161/AF)
  - Reduced utilization of plant

**Total supply cost**

Total supply cost = direct + indirect =

- High $2,065/AF
- Low $1,870/AF

For Planning Purposes Only
Estimated Impact of Desalination on Imported Supply Mix

CY 2016 Water Supplies by Source (535 kaf*)

No Desal

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Metropolitan Water District</td>
<td>66%</td>
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<tr>
<td>Imperial Irrigation District Transfer</td>
<td>19%</td>
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<tr>
<td>All American &amp; Coachella Canal Lining</td>
<td>15%</td>
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</table>

w/ Desal

<table>
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<tr>
<th>Source</th>
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<tr>
<td>All American &amp; Coachella Canal Lining</td>
<td>15%</td>
</tr>
<tr>
<td>Seawater Desalination</td>
<td>10%</td>
</tr>
</tbody>
</table>

* Includes M&I and SAWR deliveries

For Planning Purposes Only
Estimated Impact of Desalination on Rates (CY2016)

For Planning Purposes Only

San Diego County Water Authority
Summary

- These are initial/rough estimates
  - High degree of uncertainty - when projecting 2016 conditions

- Financial impact of Desal sensitive to key assumptions
  - Water sales volumes
  - Future MWD rates
  - Cost and recovery of the Bay Delta fix
  - Ability to optimize Twin Oaks

- Detailed analysis required to firm up estimates
  - Review of Twin Oaks treatment contract
  - Impact of Twin Oaks service expansion CIP project
  - Update of rate model foundational assumptions

For Planning Purposes Only
Schedule and Immediate Next Steps

- WA Provide Poseidon Draft WPA By November 4th
- Begin face-to-face negotiations mid-late November
- Continue due diligence activities
- Initiate technical studies on distribution system improvements
  - To be paid for by Poseidon as part of risk transfer
- Return in December with more detailed schedule of activities leading to consideration of WPA approval
  - Includes two public workshops
  - Member agency review of and notification of intent to purchase local supply
Schedule and Immediate Next Steps

- **June 2011** - Board approved guidelines for member agency purchase of Carlsbad desalinated water from Water Authority as a local supply at full cost recovery
  - **August 2011** - Poseidon requested waiver of 90 day review period
    - Concern over increases in interest rates on bonds
- **October 11, 2011 meeting of Board Desalination Advisory Committee**
  - Recommends that Board modify guidelines to reduce review period to 60 days
  - Run concurrently with Board workshops and WPA approval
Staff Recommendation

Revise the Guiding Principles for Member Agency Purchase of Local Supplies from the Carlsbad Desalination Project to reduce the required time for member agencies to notify the Water Authority that they intend to purchase Carlsbad Desalination Project water from the Water Authority from 90 days to 60 days from public release of the draft water purchase agreement.