

**CITY OF PHOENIX, ARIZONA
WATER SERVICES DEPARTMENT**

July 26, 2002

**LAKE PLEASANT WATER TREATMENT PLANT
DESIGN-BUILD-OPERATE PROJECT – WS85350004
REQUEST FOR PROPOSALS**

ADDENDUM NO. 7

ATTENTION PROPOSERS

The following revisions to the above-referenced Request for Proposals (RFP), dated September 5, 2001, shall become a part of the RFP. This Addendum contains a cover page and 5 pages of written text and 3 attachments. Proposers shall acknowledge receipt of this Addendum No. 7 in the Transmittal Letter to their Proposal.

Assistant Water Services Director

Date

Notice is hereby given that the RFP is revised as follows:

1. **Amend RFP Sections 6.2.2, “Price Proposal Evaluation Criteria”, and 6.2.3 “Final Scoring of Proposals”, as modified by Addendum No. 2, by replacing pages 6-9 through the end of Section 6 of the RFP with substitute pages 6-9 through 6-17 provided in Attachment A.**
2. **Amend Appendix 2, Table 2-1, “Construction Governmental Approvals” on page 2-2, by inserting the following new row to the table before the row beginning “404 Permit *”:**

401 Water Quality Certification	Arizona Department of Environmental Quality	
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3. **Amend Appendix 2, Note 1 to Table 2-1 on page 2-3, by replacing note 1 with the following:**
 1. To evidence compliance with Section 4.5(B) of the Service Agreement, the Company shall deliver a written certification to the City that it has submitted a complete application for each Process Permit or Use Permit, including all supplemental information required by the Governmental Body to be submitted with such application, on or before the Deadline for Application Submittal.
4. **Amend Appendix 4, Section 4.5.11, “Company Environmental Monitor” on page 4-20, by replacing the bullet “Conducting contingency drills” with the following bullet:**
 - Conducting contingency drills to respond to environmental emergencies that could occur on the Sites during construction of the Facilities.
5. **Amend Appendix 5, Section 5.2.1, “Sizing of the Facilities” on page 5-6, by replacing the 7th row in the table with the following new row information:**

Finished Water Pumping Station(s) ⁽⁶⁾ <ul style="list-style-type: none">• Low Pressure Pumps• High Pressure Pumps	30 160 ⁽²⁾	30 80 ⁽²⁾
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6. **Amend Appendix 5, Section 5.2.1, “Sizing of the Facilities” on page 5-7, by inserting the following note below the table after note (5):**

(6) The Finished Water Pump Station(s) shall be structurally sized to accommodate 30 mgd of Finished Water pumping capacity to the low pressure zone and 160 mgd of firm Finished Water pumping capacity to the high pressure zone. The Company shall install 30 mgd of Finished Water pumping capacity to the low pressure zone and 80 mgd of firm Finished Water pumping capacity to the high pressure zone. Upon the expansion of the Plant to 160 mgd capacity, the Low Pressure Pumps will continue to be capable of providing 30 mgd to the low pressure zone and additional High Pressure Pumps will be installed to provide 160 mgd firm capacity to the high pressure zone. Upon or prior to the expansion of the Plant to 240 mgd capacity, both Finished Water Transmission Lines will deliver Finished Water to the high pressure zone and the Low Pressure Pumps will be converted to High Pressure Pumps. The expansion of the Plant to 240 mgd capacity may require construction of a new Finished Water pumping station to meet the full Finished Water pumping requirements.

7. **Amend Appendix 5, Section 5.5.10, “Security” on page 5-26 by inserting the following at the end of the second paragraph:**

The main entrance at the Plant Site shall be provided with a gate house.

8. **Amend Appendix 5, Section 5.9.2.6, “Water Bearing Structures” on page 5-52 by amending the bullet “Constructed of reinforced concrete.” to read “Constructed of reinforced concrete, except for (1) baffle walls which maybe reinforced concrete or 316SS and (2) ladders and handrails which may be 316SS or fiberglass. There shall be no other exposed metal surfaces in the Finished Water Reservoirs.”**

9. **Amend Appendix 5, Section 5.12.6, “Flow Meters” on page 5-78 to read as follows:**

The Company shall either (a) provide a Raw Water flow meter (separate from CAP’s Raw Water flow meter) to be operated, maintained, calibrated, and read by the Company or (b) make arrangements with CAP to obtain a continuous signal from CAP’s Raw Water flow meter and transmit this signal to the Operations Building for continuous monitoring. To the extent the Company elects to make arrangements with CAP as provided in item (b) above and CAP subsequently terminates such arrangements for any reason, the Company shall, at its cost and expense, be responsible for providing a Raw

Water flow meter as provided in (a) above. The Company shall provide flow metering of all Finished Water delivered to the Water System. Finished Water flow meters shall be operated, maintained, calibrated, and read by the Company. Flow meters shall be sized for a Plant Finished Water flow range of 20 to 80 mgd and have an accuracy of 0.5% or better at full flow. The specific features of the flow meters are provided in Attachments 5D and 5E.

10. **Amend Appendix 5, Attachment 5B, Section 5B.1.3, “Wiring Diagrams” on page 5B-1, by inserting the following at the end of the Section:**

Conform wiring diagrams and labels to applicable City standards. In the absence of applicable City standards, conform to Good Engineering and Construction Practice.

11. **Amend Appendix 5, Attachment 5B, Section 5B.1.5.6, “Plant Monitoring and Control System Cabling” on pages 5B-7 and 5B-8, by changing subsection numbers “5C.1.5.6.1” and “5C.1.5.6.2” to “5B.1.5.6.1” and “5B.1.5.6.2”.**

12. **Amend Appendix 5, Attachment 5B, Section 5B.2.1, “Raw Water Pumping Station Electrical Service” on page 5B-14, by inserting the following after the third sentence:**

The Company shall provide the complete associated conduit system. APS will install and terminate the conductors.

13. **Amend Appendix 5, Attachment 5B, Section 5B.2.2, “Plant Electrical Service” on page 5B-15, by inserting the following after the first sentence:**

APS will provide redundant high voltage overhead power lines to the substation on the Plant Site and terminate the conductors at the substation APS breaker. The Company shall construct the electrical substation on the Plant Site.

14. **Amend Appendix 7, Section 7.2, “Development Period Milestones” on page 7-1, by deleting the fourth sentence and substituting the following:**

In order for the Company to receive payment for submittal of a permit application, the Company shall have delivered a written certification to the City that it has submitted a complete application for the permit, including all supplemental information required by the Governmental Body to be submitted with such application.

15. **Delete existing Appendix 9 to the Service Agreement and substitute revised Appendix 9 included as Attachment B.**
16. **Delete existing Appendix 11 to the Service Agreement and substitute revised Appendix 11 included as Attachment C.**
17. **Amend Appendix 14, Section 14.5.1, “Ongoing Preventative Maintenance” on page 14-8, by changing “Clear” to “Clean” at the beginning of maintenance activity I.**
18. **Amend Appendix 14, Section 14.5.2, “Maintenance, Repair, and Replacement Plan” on page 14-9 to read as follows:**

14.5.2 Maintenance, Repair, and Replacement Plan

At least 180 days before the anticipated start of the Operation Period, the Company shall prepare and submit for the City’s review a Maintenance, Repair and Replacement Plan that complies with the requirements of this Section 14.5 and further incorporates and expands upon its Preliminary Maintenance, Repair, and Replacement Plan included as Attachment 14A to this Appendix. After addressing the City’s comments, the Company shall submit a final Maintenance, Repair and Replacement Plan to the City prior to the initiation of the Operation Period. This plan shall be updated when Major Equipment is replaced and submitted to the City annually with a summary of new equipment in place. The Company shall comply with the Maintenance, Repair and Replacement Plan throughout the Operation Period.

At the conclusion of the Operation Period, the Company shall return the Facilities to the City in accordance with the requirements of Section 9.2 of the Service Agreement.

14.5.2.1 Minimum Plan Requirements

The Maintenance, Repair and Replacement Plan shall define how the Company will achieve the City’s objective of quality performance, including but not limited to the following components of quality performance: 1) availability of consumables and spare parts; 2) ongoing maintenance and repair; 3) uninterrupted Finished Water at flows demanded by the City; 4) appropriate and timely renewal and replacement of Major Equipment; 5) continuous good housekeeping to preserve aesthetics and protect against deterioration; and 6) cost-effective upgrades of obsolete equipment and systems.

19. **The Maintenance, Repair and Replacement Plan shall include an equipment inventory, schedule for shift and preventative maintenance, and related operator training. Through the use of a computerized maintenance management system (CMMS) that is compatible with the City’s CMMS system, the plan shall address the tracking of groups of equipment with different useful lives, and include depreciation and the appropriate repairs, replacements, and renewals repair and replacement schedule shall be provided as part of the Maintenance, Repair and Replacement Plan. The Maintenance, Repair and Replacement Plan shall also describe how the Facilities will be periodically taken down for maintenance, while continuously meeting the Water Delivery Guarantee. Additionally, the Maintenance, Repair and Replacement Plan shall describe how portions of the Facilities will be operated during the major annual maintenance period that is expected to last up to six weeks during the winter. During this annual maintenance period the Facilities shall remain capable of producing 60 mgd at all times. The Maintenance, Repair and Replacement Plan shall be consistent with the weighted average useful life requirements defined in the Service Agreement and Appendix 15.**

Attachment A – RFP Section 6 Replacement Pages

6.2.2 Price Proposal Evaluation Criteria

Price Proposals will be evaluated in a two-step process. The first step will be an evaluation of the responsiveness of Price Proposals in accordance with Section 6.2.2.1. The second step will be the scoring of responsive Price Proposals in accordance with the system defined in Section 6.2.2.3.

6.2.2.1 Responsiveness Evaluation

In the responsiveness evaluation, Price Proposals will be evaluated against the following conformance requirements:

Favorable Comparison to the Benchmark – To be considered responsive, a Price Proposal must result in an estimated net present value (NPV) of Project costs (including the City’s estimated Project administrative and oversight costs) which is less than the Benchmark stated in Section 2.1.5. The date used for calculating the NPV is July 1, 2003 (NPV Date). To determine if a Price Proposal meets this requirement, the Price Proposal NPV will be calculated as described in Section 6.2.2.2.

6.2.2.2 Price Proposal NPV Calculation

This section presents the Selection Committee’s model for calculating a Proposal’s NPV as of the NPV Date. Estimations, projections and simplifying assumptions have been made regarding many factors needed to develop a model to fairly and equitably evaluate the Price Proposals against one another and the Benchmark, which applies the same assumptions. These factors include, but are not limited to, projected City flow demands on an annual and peak monthly basis, City residual chlorine demands, electric rate schedule structure, and inflation rates. These estimates, projections and simplifying assumptions are for the purpose of Price Proposal evaluation only and in no way affect the Company’s obligation to comply with the terms and conditions of the Service Agreement.

Any Price Proposal which results in an associated NPV_{PP} that equals or exceeds the Benchmark will be deemed by the Selection Committee to be non-responsive and will be rejected in its entirety. Proposers are advised that this comparative evaluation is limited to a comparison of the full NPV_{PP} against the Benchmark and does not include a comparison of individual components of the NPV_{PP} to the individual components of the Benchmark.

The Price Proposal NPV will be equal to the sum of the following price components (Equation 1):

- The NPV of the Design/Build Costs. Design/Build Costs are defined as the sum of: (1) the Fixed Design/Build Price (from Proposal Form 34) and (2) \$4,947,367, the City’s estimated administrative and oversight costs associated with the Design/Build Work(see Equation 2); and

- The NPV of the Operating Costs. Operating Costs are comprised of the Base Operating Charge of the annual Service Fee (from Proposal Forms 35 and 35A), the annual electricity costs for the operation of the Facilities, and the City’s estimated annual administrative and oversight costs during the initial Operation Period (see Equation 3).

The formula for calculating the Price Proposal NPV is as follows:

$$NPV_{PP} = NPV_{DB} + NPV_{OC} \quad \text{Equation 1}$$

Where:

- NPV_{PP} = the Price Proposal NPV
- NPV_{DB} = the NPV of the Design/Build Costs
- NPV_{OC} = the NPV of the Operating Costs

NPV_{PP} will be rounded to the nearest whole dollar, with a half-dollar rounding up to the nearest dollar.

NPV of Design/Build Costs (NPV_{DB}): NPV_{DB} is calculated as follows:

$$NPV_{DB} = C_{DB} \left[\frac{1}{(1 + k)^n} \right] \quad \text{Equation 2}$$

Where:

- NPV_{DB} = the present value as of the NPV date of the Design/Build Costs (C_{DB}).
- C_{DB} = the Design/Build Costs (as defined above).
- k = the monthly NPV discount rate of 0.463%
- n = The number of months between the first day of the month when the proposed Construction Start Date occurs (from Proposal Form 34) and the NPV Date. For a proposed Construction Start Date of July 1, 2004, n = 12.

NPV of Operating Costs (NPV_{OC}): NPV_{OC} is calculated as follows:

$$NPV_{OC} = \sum_{t=1}^{19} \frac{OC_t}{(1 + k)^t} \quad \text{Equation 3}$$

Where:

- NPV_{OC} = the NPV of the Operating Costs presented in NPV Date dollars, which is the arithmetic sum of the discounted annual Operating Costs (OC) for each fiscal year *t* over the period of July 1, 2003, through June 30, 2022. The Operating Costs for fiscal years prior to fiscal year 2007 will be zero. For the purposes of discounting annual Operating Costs, it is assumed that all of the costs for a fiscal year occur on

the last day of that fiscal year. Finished Water flow is assumed to equal Finished Water demand in each fiscal year.

- t = the specific fiscal year. For fiscal year 2004 (i.e., July 1, 2003 through June 30, 2004), $t=1$. For fiscal year 2022 (i.e., July 1, 2021 through June 30, 2022), $t=19$.
- k = the NPV annual discount rate (5.7%)
- OC_t = the Operating Costs in then current year dollars for each fiscal year t which are comprised of:

1. **Base Operating Charge.** The proposed annual Base Operating Charge of the Service Fee for each fiscal year t is comprised of the Fixed Component for each flow reset (from Price Proposal Form 35) and the Variable Component that is derived through linear interpolation between the Fixed Components for each flow reset. The Variable Component also includes the Extra Chlorine Element during the Operation Period (see Equation 7A). The Base Operating Charge will be based on the projected total annual average Finished Water demand in fiscal year t as shown in Table 6-1, escalated annually by the proposed fraction (from Proposal Form 35) of the annual percent change in the CPI. For the purposes of Price Proposal evaluation the annual percent change in the CPI will be assumed to be 3.0% and the Base Operating Charge for a fiscal year will be derived by linear interpolation between the Fixed Components for each flow reset provided in Proposal Form 35. The Base Operating Charge for fiscal year 2007 will be calculated as a pro-rated amount of the annual Base Operating Charge, assuming 150 days of operation out of a total of 365 days in a year.

Table 6-1			
Annual Average Daily Finished Water Demand Projections for Price Proposal Evaluation*			
Fiscal Year	Annual Average Finished Water Demand Rate (mgd)		
	Total	Low Pressure Finished Water Transmission Line	High Pressure Finished Water Transmission Line
2007**	40	30	10
2008	40	20	20
2009	40	20	20
2010	40	20	20
2011	40	20	20
2012	40	20	20
2013	50	30	20
2014	50	20	30
2015	50	30	20
2016	50	20	30
2017	60	30	30
2018	60	20	40
2019	60	20	40
2020	60	10	50
2021	60	0	60

Table 6-1			
Annual Average Daily Finished Water Demand Projections for Price Proposal Evaluation*			
Fiscal Year	Annual Average Finished Water Demand Rate (mgd)		
	Total	Low Pressure Finished Water Transmission Line	High Pressure Finished Water Transmission Line
2022	70	0	70

* The numbers presented in this table are for evaluation purposes only and may not correspond to actual flow rates at the Plant during the Operation Period.

** Fiscal year 2007 consists of the five-month period from February 1, 2007 through June 30, 2007. Subsequent fiscal years are 12-month periods beginning on July 1.

2. Electricity Costs – Raw Water Pumping Station. The City’s annual cost for electricity in then current year dollars for the operation of the RWPS. The annual cost for electricity at the RWPS will be calculated using the following equation (Equation 4):

$$EC_{RWPS(t)} = (BSC_t \times M_t) + (GMEU_{RWPS} \times Q_t \times D_t \times UC_t) + (GMED_{RWPS WA} \times M_t \times DC_t)$$

Where:

- $EC_{RWPS(t)}$ = the City’s cost for electricity in then current year dollars for Contract Year t for the operation of the RWPS.
- BSC_t = the monthly Basic Service Charge during year t as identified in Table 6-2 in then current dollars per month.
- M_t = the number of months in Contract Year t .
- $GMEU_{RWPS}$ = the proposed Guaranteed Maximum Electricity Utilization (from Proposal Form 33A) in kWh per million gallons of Finished Water delivered to the Water System for the operation of the RWPS.
- Q_t = the annual average daily total Finished Water demand for Contract Year t as identified in Table 6-1. Finished Water flow is assumed to equal Finished Water demand in each fiscal year.
- D_t = the number of days in fiscal year t . For the purposes of calculating $EC_{RWPS(t)}$, each Contract Year is assumed to have 365 days, except fiscal year 2007 which is assumed to have 150 days.
- UC_t = the electricity utilization charge (i.e. then current year dollars per kWh for electricity utilization) during fiscal year t as identified in Table 6-2.
- $GMED_{RWPS WA}$ = the weighted average Guaranteed Maximum Electricity Demand for the operation of the RWPS in kW calculated as follows using the Proposer’s GMED value proposed and defined in Proposal Form 33A (Equation 5):

$$GMED_{RWPS WA} = 0.05 \times GMED_{RWPS60} + 0.10 \times GMED_{RWPS70} + 0.75 \times GMED_{RWPS80}$$

DC_t = the monthly demand charge in then current dollars per kW of demand for the operation of the RWPS during year t as identified in Table 6-2.

Table 6-2 Summary of Electrical Unit Charges in then Current Year Dollars			
Fiscal Year	Basic Service Charge (per month)	Utilization Charge (per kWh)	Demand Charge (per kW)
2007	\$2,902	\$0.0381	\$12.93
2008	\$2,989	\$0.0392	\$13.32
2009	\$3,078	\$0.0404	\$13.72
2010	\$3,171	\$0.0416	\$14.13
2011	\$3,266	\$0.0429	\$14.55
2012	\$3,364	\$0.0442	\$14.99
2013	\$3,465	\$0.0455	\$15.44
2014	\$3,569	\$0.0468	\$15.90
2015	\$3,676	\$0.0483	\$16.38
2016	\$3,786	\$0.0497	\$16.87
2017	\$3,899	\$0.0512	\$17.38
2018	\$4,016	\$0.0527	\$17.90
2019	\$4,137	\$0.0543	\$18.44
2020	\$4,261	\$0.0559	\$18.99
2021	\$4,389	\$0.0576	\$19.56
2022	\$4,521	\$0.0593	\$20.15

3. Electricity Costs – Plant Site. The City’s annual cost for electricity at the Plant Site in then current year dollars for the operation of the Plant, the Low Pressure Pumps, and High Pressure Pumps. The annual cost for electricity at the Plant Site will be calculated using the following equation (Equation 6):

$$\begin{aligned}
 EC_{Plant\ Site(t)} = & (BSC_t \times M_t) + (GMEU_{Plant(d)} \times Q_{Plant(t)} \times D_t \times UC_t) + \\
 & (GMEU_{LPFW(d)} \times Q_{LP(t)} \times D_t \times UC_t) + (GMEU_{HPFW} \times Q_{HP(t)} \times D_t \times UC_t) \\
 & + (GMED_{Plant\ Site\ WA} \times M_t \times DC_t)
 \end{aligned}$$

Where:

- $EC_{Plant\ Site(t)}$ = the City's cost for electricity in then current year (Contract Year t) dollars for the operation of the Plant, Low Pressure Pumps, and High Pressure Pumps.
- M_t = the number of months in Contract Year t .
- BSC_t = the monthly Basic Service Charge during year t as identified in Table 6-2 in then current year dollars.
- $GMEU_{Plant(d)}$ = the proposed Guaranteed Maximum Electricity Utilization (from Proposal Form 33B) in kWh per million gallons of Finished Water delivered to the Water System for the operation of the Plant at the annual average daily Total Finished Water demand level d .
- $Q_{Plant(t)}$ = the annual average daily total Finished Water demand to the Water System for fiscal year t as identified in Table 6-1.
- D_t = the number of days in Contract Year t . For the purposes of calculating $EC_{RWPS(t)}$, each Contract Year is assumed to have 365 days, except fiscal year 2007 which is assumed to have 150 days.
- UC_t = the electricity utilization charge (i.e. then current year dollars per kWh for electricity utilization) during year t as identified in Table 6-2.
- $GMEU_{LPFW(d)}$ = the proposed Guaranteed Maximum Electricity Utilization (from Proposal Form 33C) in kWh per million gallons of Finished Water delivered to the LPFWTL for the operation of the Low Pressure Pumps at the annual average daily Low Pressure Finished Water demand level d .
- $Q_{LP(t)}$ = the annual average daily total Finished Water demand to the LPFWTL for fiscal year t as identified in Table 6-1.
- $GMEU_{HPFW}$ = the proposed Guaranteed Maximum Electricity Utilization (from Proposal Form 33D) in kWh per million gallons of Finished Water delivered to the HPFWTL for the operation of the High Pressure Pumps.
- $Q_{HP(t)}$ = the annual average daily total Finished Water flow rate to the HPFWTL for fiscal year t as identified in Table 6-1.
- $GMED_{Plant\ Site\ WA}$ = the weighted average Guaranteed Maximum Electricity Demand for the operation of the Plant, Low Pressure Pumps, and High Pressure Pumps in kW calculated as follows using the Proposer's GMED values proposed and defined in Proposal Forms 33A through 33D (Equation 7):

$$GMED_{Plant\ Site\ WA} = 0.95 \times GMED_{Plant} + GMED_{LPFW} + 0.10 \times GMED_{HP30} + 0.10 \times GMED_{HP40} + 0.50 \times GMED_{HP50} + 0.05 \times GMED_{HP60} + 0.05 \times GMED_{HP70} + 0.10 \times GMED_{HP80}$$

- DC_t = the monthly demand charge in then current dollars per kW of demand for the operation of the Plant, Low Pressure Pumps, and High Pressure Pumps during fiscal year t as identified in Table 6-2.

4. Administrative and Oversight Costs. The City's estimated annual costs for administrative and

oversight associated with the Project during the initial Operation Period as presented in Table 6-3.

Table 6-3 City's Estimated Annual Operation Period Administrative and Oversight Costs	
Fiscal Year	Administrative and Oversight Costs in then Current Year Dollars ⁽¹⁾
2007 ⁽²⁾	\$ 1,393,155
2008	\$ 3,443,878
2009	\$ 3,547,195
2010	\$ 3,653,611
2011	\$ 3,763,219
2012	\$ 3,876,116
2013	\$ 3,992,399
2014	\$ 4,112,171
2015	\$ 4,235,536
2016	\$ 4,362,602
2017	\$ 4,493,480
2018	\$ 4,628,285
2019	\$ 4,767,133
2020	\$ 4,910,147
2021	\$ 5,057,452
2022	\$ 5,209,175

1. Costs are presented in dollars corresponding to the fiscal year shown.
2. Estimated cost for fiscal year 2007 is for the five-month period February 1, 2007 to June 30, 2007.

5. Extra Chlorine Element of Variable Component. The Extra Chlorine Element of the Variable Component of the Service Fee is payable to the Company during periods of time when the City demands a chlorine residual in the Finished Water in excess of 1.3 mg/L (“High Chlorine Residual”). For the purposes of Price Proposal evaluation, it is assumed that the City will demand a High Chlorine Residual in fiscal years 2007 through 2012 and the projected total annual average Finished Water demands will be as shown in Table 6-1. The High Chlorine Residual Unit Charge (from Proposal Form 35A) will be escalated annually by the proposed fraction of the annual percent change in the CPI (from Proposal Form 35). For the purposes of Price Proposal evaluation the annual percent change in the CPI will be assumed to be 3.0%. The

Extra Chlorine Element for fiscal year 2007 will be calculated assuming 150 days of operation in fiscal year 2007. The annual cost of the Extra Chlorine Element will be calculated using the following equation (Equation 7A):

$$ECE_{(t)} = HCRUC_t \times Q_t \times D_t \quad \text{(Equation 7A)}$$

Where:

- $ECE_{(t)}$ = the City's cost for demanding a High Chlorine Residual in then current year dollars for Contract Year t .
- $HCRUC_t$ = the High Chlorine Residual Unit Charge during year t in dollars per million gallons of Finished Water delivered.
- Q_t = the annual average daily total Finished Water demand for Contract Year t as identified in Table 6-1. Finished Water flow is assumed to equal Finished Water demand in each fiscal year.
- D_t = the number of days in fiscal year t . For the purposes of calculating $ECE_{(t)}$, each Contract Year is assumed to have 365 days, except fiscal year 2007 which is assumed to have 150 days.

6.2.2.3 Price Proposal Scoring

In the second step of the evaluation of Price Proposals, responsive Price Proposals receive points for the amount that their Price Proposal NPV is below the highest responsive NPV_{PP} . For each Responsive Price Proposal:

- The NPV_{PP} will be subtracted from the highest responsive NPV_{PP} .

$$D_i = NPV_h - NPV_i \quad \text{Equation 8}$$

Where:

- NPV_h = the highest responsive NPV_{PP}
- NPV_i = the NPV_{PP} of Proposer i
- D_i = the difference in dollars between the highest responsive NPV_{PP} and the NPV_{PP} of Proposer i

- The price difference (D_i) will be divided by \$250,000 per point to determine the number of Price Proposal points to be awarded.

$$A_i = \frac{D_i}{\$250,000} \quad \text{Equation 9}$$

Where:

A_i = the number of Price Proposal points awarded to Proposal i . The resulting number of points (A_i) will be rounded either up or down to the nearest tenth of a point (exactly one twentieth of a point will be rounded up to the nearest tenth of a point) to yield the number of points to be awarded to the Price Proposal.

6.2.3 Final Scoring of Proposals

After the points have been assigned to both the Technical and Price Proposals, the Selection Committee will sum up the Technical Score and the Price Score for that Proposal. The Proposer submitting the Proposal that receives the highest total number of points will become the Selected Proposer. In the event of a tie (i.e., more than one Proposal has the highest total point value after adding together the Technical Score and the Price Score) the Selection Committee will select from one of the tying Proposals the Proposal that it believes is in the best interest of the City. The following table is an example of the application of the Price Proposal Evaluation:

	Proposal 1	Proposal 2	Proposal 3
Benchmark	\$353,305,232		
Technical Score	770.0	840.0	895.8
Price Proposal NPV	\$295,520,612	\$310,200,500	353,408,900
Price Points	58.7	0	Not Evaluated since NPV _{pp} > Benchmark
Total Points	828.7	840.0	Not Evaluated
Selected Proposer	Not Selected	Selected	Not Evaluated

Attachment B – Replacement Pages for Appendix 9

**APPENDIX 9 – SUPPLEMENTAL PERFORMANCE GUARANTEE REQUIREMENTS
AND LIQUIDATED DAMAGES1**

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APPENDIX 9 – SUPPLEMENTAL PERFORMANCE GUARANTEE REQUIREMENTS AND LIQUIDATED DAMAGES

9.1 PURPOSE

This Appendix sets forth the requirements for certain of the Performance Guarantees for the Facilities described in Article VIII of the Service Agreement and the resulting liquidated damages for failure of the Company to meet such Performance Guarantees during the Operation Period.

9.2 PERFORMANCE GUARANTEES

9.2.1 Water Treatment Guarantee

The Company shall design, construct and operate the Facilities in such a manner that the Finished Water produced is in compliance with all Applicable Law including all primary and interim primary drinking water regulations (e.g., primary maximum contaminant levels (MCLs), promulgated by United States Environmental Protection Agency (USEPA) and Arizona Department of Environmental Quality (ADEQ)). In addition, the Finished Water shall be in compliance with the specific Enhanced Standards listed in Table 9-1, which includes a number of regulatory standards presented for clarity. For the purposes of Table 9-1, where “Finished Water” is the designated point of performance measurement, it refers to a point downstream of both the Finished Water pumps and last point of chemical addition and before the first customer.

All analytical methods used to demonstrate compliance shall be according to approved methods by ADEQ. In the event that a particular parameter does not have a method approved by ADEQ, methods currently approved by the USEPA, or contained in “Standard Methods for the Examination of Water and Wastewater” shall be acceptable.

Table 9-1 Enhanced Standards			
No.	Parameter	Point of Performance Measurement	Performance Value ⁽¹⁾
Particulate / Microbiological Parameters			
1	Turbidity	Individual filter effluent	No more than one 15-min observation greater than 1.0 NTU in any month; ≤0.1 NTU for at least 95% of 15-min observations in any month
2		Combined filter effluent	<1.0 NTU for 100% of 4-hr observations; ≤ 0.1 NTU for at least 95% of 4-hr observations in any month
3		Finished Water	<1.0 NTU for 100% of 4-hr observations; ≤ 0.2 NTU for at least 95% of 4-hr observations in any month
4	<i>Cryptosporidium</i> Disinfection Level		≥ 3-log total removal and/or inactivation credit. ≥ 1-log inactivation credit. (see Note 2)
5	<i>Giardia</i> Inactivation		≥ 0.5-log <i>Giardia</i> inactivation with free chlorine and/or chlorine dioxide contacting in a post-treatment configuration, based on daily calculation using highest flow, lowest temperature and highest pH for the day. Here, “post-treatment” indicates downstream of all TOC and particle removal processes.
6	Total Coliforms	Finished Water	Non-detect in 100% of grab samples taken at least daily.
7	Chlorine Residual <i>Note: The City will specify a chlorine residual (“City-Specified Residual”) that will be less than or equal to 5.0 mg/L.</i>	Finished Water	City-Specified Residual +/- 0.3 mg/L at all times based upon continuous monitoring. Weekly average equal to City-Specified Residual +/- 0.1 mg/L. <i>Note: Performance guarantees for 48 hour SDS TTHM and HAA5 parameters will be suspended for the period that the City-Specified Residual > 2.3 mg/L.</i>
Inorganic Water Quality Parameters			
8	Alkalinity	Finished Water	≥ 80 and ≤ 160 mg/L as CaCO ₃ based on daily average
9	pH	Finished Water	≥ 7.6 to ≤ 8.1 based on continuous monitoring
10	Calcium Carbonate Saturation Index (see Note 3)	Finished Water	≥ 0.20 and ≤ 1.0 units based on daily calculation using measurements of alkalinity, pH, calcium, total dissolved solids (or conductivity), and temperature from simultaneously collected grab samples.

**Table 9-1
 Enhanced Standards**

No.	Parameter	Point of Performance Measurement	Performance Value ⁽¹⁾
11	Iron	Finished Water	≤ 0.05 mg/L total iron based on monthly average of at least one grab sample, plus additional sampling events (not to exceed 12 per year), the times of which are to be set at the discretion of the City. If iron salts are used in the treatment process, daily grab samples are required in order to calculate the monthly average.
12	Aluminum	Finished Water	≤ 0.20 mg/L based on monthly average.
13	Arsenic	Finished Water	≤ 5 ug/L based on running annual average of monthly average values.
14	Manganese	Finished Water	≤ 0.03 mg/L based on monthly average of at least one grab sample, plus additional sampling events (not to exceed 12 per year), the times of which are to be set at the discretion of the City.
15	Fluoride	Finished Water	0.6 to 1.2 mg/L at all times based on continuous monitoring; however, the Company is not required to meet this Performance Guarantee during periods of time when the Raw Water fluoride level exceeds 1.2 mg/L. Daily average of 0.7 mg/L +/-0.1 mg/L; however, the Company is not required to meet this Performance Guarantee for days that the average Raw Water fluoride level exceeds 0.8 mg/L.
Disinfection By-Products (DBPs)			
16	Total Trihalomethanes – Simulated Distribution System (SDS)	Finished Water	≤ 40 ug/L based on running annual average of weekly averages subjected to SDS test conditions simulating average DBP formation (48 hour test) that correspond to the CSR. ≤ 80 ug/L based on running annual average of weekly averages subjected to SDS test conditions simulating maximum DBP formation (72 hour test) that correspond to the CSR. (see Note 4)

Table 9-1 Enhanced Standards			
No.	Parameter	Point of Performance Measurement	Performance Value ⁽¹⁾
17	Sum of 5 Haloacetic acids - SDS	Finished Water	<p>≤ 30 ug/L based on running annual average of weekly averages subjected to SDS test conditions simulating average DBP formation (48 hour test) that correspond to the CSR.</p> <p>≤ 60 ug/L based on running annual average of weekly averages subjected to SDS test conditions simulating maximum DBP formation (72 hour test) that correspond to the CSR. (see Note 4)</p>
18	Bromate	Finished Water	≤ 5 ug/L based on running annual average of weekly averages.
19	Biodegradable Organic Carbon (BDOC) (see Note 5)	Finished Water	≤ 0.30 mg/L (as carbon) increase above Raw Water level based on grab samples of Raw Water and Finished Water. If ozone is utilized in the Plant, monthly grab samples are required. If ozone is not used at the Plant, annual grab samples are required.
Aesthetic Water Quality Parameters			
20	MIB	Finished Water	≤ 5 ng/L or ≥ 90% removal whichever is least stringent based on monthly average of at least one grab sample, plus additional sampling events (not to exceed 12 per year), the times of which are to be set at the discretion of the City.
21	Geosmin	Finished Water	≤ 5 ng/L or ≥ 90% removal whichever is least stringent based on monthly average of at least one grab sample, plus additional sampling events (not to exceed 12 per year), the times of which are to be set at the discretion of the City.
22	True Color	Combined filter effluent	≤ 3 platinum cobalt units based on monthly average of at least one grab sample, plus additional sampling events (not to exceed 12 per year), the times of which are to be set at the discretion of the City.
Recycle-Related Parameters			
23	Point of Recycle Return		If backwash water, sludge thickener supernatant, or de-watering process concentrate are recycled at the Plant, these recycle streams must be returned prior to the point of primary coagulant addition in the treatment process. (see Note 6)

Table 9-1 Enhanced Standards			
No.	Parameter	Point of Performance Measurement	Performance Value⁽¹⁾
24	Recycle Stream Flow Percentage	Point of Recycle Return	When 1-day average turbidity is less than or equal to 270 NTU, the total flow of recycle return streams must always be ≤ 10% of total Plant flow (equal to Raw Water flow plus recycle flow) based on continuous monitoring. When 1-day average turbidity is greater than or equal to 270 NTU, the total flow of recycle return streams must always be ≤ 25% of total Plant flow (equal to Raw Water flow plus recycle flow) based on continuous monitoring.
25	Recycle Stream Solids Removal	Point of Recycle Return	≥ 80% solids removal is to be achieved in recycled flows 95% of the time based on either a) continuous turbidity measurement of treated and untreated flows or b) daily grab samples of treated and untreated total suspended solids samples. This limit does not apply to filter-to-waste flows.

Notes to Table 9-1, Enhanced Standards:

1. When performance value is based on an average over a specified time period (e.g., daily, monthly), the performance value used for determining compliance under the Service Agreement is the average of all samples taken during such time period, which shall include at a minimum the greater of one sample and such greater number of samples otherwise required by the Contract Standards. Annual averages during the first year of operations shall be calculated by averaging values over the number of months that the Plant has operated. When performance value is based on an individual sample result at a specified sampling frequency, the results of all samples taken shall be reported and shall meet the performance value. Sampling frequencies shall be consistent with the Operating Protocol.

2. At least 3.0 logs of *Cryptosporidium* control credit are to be achieved by physical removal and/or inactivation on a continuous basis. At least 1.0 log of *Cryptosporidium* inactivation shall be achieved on a continuous basis. All processes and their associated levels of *Cryptosporidium* removal and/or inactivation credit must be approved by the ADEQ. The following paragraphs present guidance regarding how *Cryptosporidium* inactivation and/or removal credit may be achieved.

Granular Media Filtration – A granular media filtration process consistently meeting all turbidity requirements in this Appendix achieves 2.0 logs of *Cryptosporidium* removal credit.

Microfiltration or Ultrafiltration – A microfiltration or ultrafiltration process with a nominal pore size < 1 micron meeting all system integrity requirements as set forth by the ADEQ and the turbidity requirements in this Appendix achieves 3.0 logs of *Cryptosporidium* removal credit.

Ozone – Ozone can be used to achieve *Cryptosporidium* inactivation credit if adequate CT is achieved. CT is defined here as the product of the average ozone residual concentration (in mg/L) and the T₁₀ value (in minutes) throughout the ozone contacting system. The CT required is a function of the water temperature at the point of ozone addition and the inactivation credit desired. Continuous achievement of CT for inactivation of *Cryptosporidium* by ozone must be demonstrated by continuous monitoring of ozone residual(s) in the effluent of the ozone contactor(s) and influent Plant flow and temperature. The following table presents CT required values for various temperatures and inactivation credits. Linear interpolation can be used to calculate CT values for intermediate temperatures and logs of inactivation; for temperatures > 25 C, the CT required is the same as that at 25 C.

CT Required (min-mg/L) for <i>Cryptosporidium</i> Inactivation Credit Using Ozone									
Logs of Inactivation	Temperature of Ozonation								
	1 C	2 C	3 C	5 C	7 C	10 C	15 C	20 C	25 C
0.5	13.1	8.6	6.7	4.9	4.0	3.2	2.5	2.1	1.8
1.0	26.2	17.2	13.4	9.8	8.0	6.4	5.0	4.2	3.6
1.5	39.3	25.7	20.1	14.7	11.9	9.6	7.5	6.3	5.5
2.0	52.5	34.3	26.8	19.6	15.9	12.8	10.0	8.4	7.3
2.5	65.6	42.9	33.4	24.4	19.9	16.0	12.5	10.5	9.1
3.0	78.7	51.5	40.1	29.3	23.9	19.2	15.0	12.5	10.9

Chlorine Dioxide – *Chlorine dioxide* can be used to achieve *Cryptosporidium* inactivation credit if adequate CT is achieved. CT is defined here as the product of the residual chlorine dioxide concentration at the end of contact (in mg/L) and the T₁₀ value (in minutes) throughout the chlorine dioxide contacting zone. The CT required is a function of the water temperature at the point of chlorine dioxide addition and the inactivation credit desired. Continuous achievement of CT for inactivation of *Cryptosporidium* by chlorine dioxide must be demonstrated by continuous monitoring of chlorine dioxide residual(s) in the effluent of the chlorine dioxide contacting zone(s) and influent plant flow and temperature. The following table presents CT required values for various temperatures and inactivation credits. Linear interpolation can be used to calculate CT values for intermediate temperatures and logs of inactivation; for temperatures > 25 C, the CT required is the same as that at 25 C.

CT Required (min-mg/L) for <i>Cryptosporidium</i> Inactivation Credit Using Chlorine Dioxide									
Logs of Inactivation	Temperature								
	1 C	2 C	3 C	5 C	7 C	10 C	15 C	20 C	25 C
0.5	252	231	212	179	150	116	75	49	32
1.0	504	462	424	357	301	232	151	98	64
1.5	756	694	636	536	451	348	226	147	96
2.0	1008	925	849	714	601	464	302	196	127
2.5	1260	1156	1061	893	751	580	377	245	159
3.0	1512	1387	1273	1071	902	696	452	294	191

Ultraviolet Light – A UV disinfection process can be used to achieve 3 logs of *Cryptosporidium* inactivation credit assuming the following conditions are met:

- a) A dose of at least 40 mJ/cm² must be continuously transmitted through the disinfected stream
- b) The UV can be applied only to filtered water meeting all turbidity requirements set forth in this document, by USEPA, and by the ADEQ

3. Calcium carbonate saturation index shall be calculated as described by Method 2330 B (pg. 2-30) in Standard Methods for the Examination of Water and Wastewater, 20th Edition. 1998. American Public Health Association.

4. Simulated Distribution System (SDS) tests will be used to determine compliance with TTHM and HAA5 requirements. Finished Water (after final disinfection) is to be collected for these tests – pH and chlorine may need to be adjusted to meet the test conditions defined below. Two different sets of SDS test conditions are described below under the headings “Low Chlorine Residual” and “High Chlorine Residual”. The appropriate SDS test conditions shall be used based on the City-Specified Residual selected by the City as part of the City’s Finished Water demand requests under Section 8.3 of the Service Agreement. Furthermore, test conditions are provided for both average (48 hour) and maximum (72 hour) DBP formation conditions. The following describes the test conditions:

Low Chlorine Residual (City-Specified Residual ≤ 1.3 mg/L)

SDS Conditions for 40/30 TTHM/HAA5 Tests:

- pH: 7.8 +/- 0.2 units
- Temperature: Same as Finished Water at time of collection +/- 3 C
- Free Cl₂ Residual at test end: 0.9 +/- 0.2 mg/L
- Time: 48 +/- 2 hours

SDS Conditions for 80/60 TTHM/HAA5 Tests:

- pH: 7.8 +/- 0.2 units
- Temperature: Same as Finished Water at time of collection +/- 3 C
- Free Cl₂ Residual at test end: 0.7 +/- 0.3 mg/L
- Time: 72 +/- 2 hours

High Chlorine Residual (City-Specified Residual > 1.3 mg/L)

SDS Conditions for 40/30 TTHM/HAA5 Tests:

pH: 7.8 +/- 0.2 units
Temperature: Same as Finished Water at time of collection +/- 3 C
Free Cl₂ Residual at test end: 1.5 +/- 0.2 mg/L
Time: 48 +/- 2 hours

SDS Conditions for 80/60 TTHM/HAA5 Tests:

pH: 7.8 +/- 0.2 units
Temperature: Same as Finished Water at time of collection +/- 3 C
Free Cl₂ Residual at test end: 1.0 +/- 0.3 mg/L
Time: 72 +/- 2 hours

5. BDOC analyses should be performed using the method described by: Joret, J.C. et al. "Rapid Method for Estimating the Bioeliminable Organic Carbon in Water." Proceedings of the 1988 AWWA Annual Conference, Orlando, Florida.

6. If a lime softening process is used at the Plant, process solids may be returned at the point of lime addition. Similarly, if contact-clarification is used, process solids may be recycled directly to the contactor. However, recycle streams containing sludge thickener supernatant, or de-watering process concentrate must be returned prior to the point of primary coagulant addition for either of these types of processes.

9.2.2 Environmental Guarantees

As provided in Section 8.6 of the Service Agreement, the Company shall at all times during performance of the Design/Build Work and the Operation Services comply with the Environmental Guarantees defined in Table 9-2, and as further described in this Section 9.2.2.

The Company is not required to perform monitoring of any of the Environmental Guarantees unless a complaint has been filed with either the City or the Company regarding any one of the parameters comprising the Environmental Guarantee at or from any of the Sites. The City may monitor any Environmental Guarantee at the property lines of any of the Sites at any time during the Term of the Service Agreement to test the Company's compliance with this guarantee.

Table 9-2 Environmental Performance Guarantees			
No.	Parameter	Point of Performance Measurement	Performance Values
1	Noise	At and beyond the Property Line	≤ 55 dBA, except during construction and except for alarms during the Operation Period.
2	Dust	Within and surrounding the Sites	≤ 20 percent visible emission opacity measured in accordance with USEPA Method 9.
3	Odors	At and beyond the Property Line	No objectionable odors.
4	Lighting	Property Line	≤ One foot candle, except during emergencies or with prior written City approval to address security concerns.

9.2.3 Hydraulic Transient Guarantee

The Company shall operate the Facilities to comply at all times with the following limits on pressure:

- Low Pressure Finished Water Transmission Line (LPFWTL) Minimum Hydraulic Grade Line (HGL) = 1625 feet
- LPFWTL Maximum HGL = 1800 feet
- High Pressure Finished Water Transmission Line (HPFWTL) Minimum HGL = 1680 feet
- HPFWTL Maximum HGL = 2035 feet

9.3 SPECIFIED RAW WATER QUALITY PARAMETERS AND TURBIDITY CURVE

9.3.1 Specified Raw Water Quality Parameters

Table 9-3 sets forth the Specified Raw Water Quality Parameters referred to in subsection 8.7(E) of the Service Agreement. As provided in subsection 8.7(E), if the concentration or characteristics of any such Raw Water quality parameter are outside of the applicable parameter range specified in Table 9-3 below, the Company shall be entitled to the particular

relief set forth in Table 9-3. Where cost relief is specified in Table 9-3, the Company shall be entitled to such relief only to the extent such costs have been incurred by the Company.

Table 9-3 Specified Raw Water Quality Parameters⁽¹⁾		
Parameter	Raw Water Condition of Relief	Definition and Quantity of Relief
Turbidity	10-day average > 28.8 NTU	Production quantity relief in accordance with Figure 9-1.
<i>Cryptosporidium</i> , <i>Giardia</i> , Total Coliforms, Temperature, BDOC, Calcium Carbonate Saturation Index, True Color (except as indicated under Bromide)	No Relief.	No Relief.
Alkalinity	Monthly average < 70 or > 200 mg/L as CaCO ₃	Reimbursement for additional chemical cost for acid and/or base (See Note 2).
pH	Monthly average < 6 or > 9	Reimbursement for additional chemical cost for acid and/or base (See Note 2).
Iron	Monthly average > 1.0 mg/L	Reimbursement for additional cost of preoxidation chemicals (see Note 2) and suspension of Performance Guarantees for 48 hour SDS TTHM and HAA5 parameters.
Aluminum	Monthly average > 0.2 mg/L	Reimbursement of additional cost of chemicals for optimizing pH during coagulation (see Note 2).
Arsenic	Monthly average As (V) >25 ug/L	Suspend Arsenic Enhanced Standard. Comply with Applicable Law.
	Monthly average As (III) >25 ug/L.	Suspend Arsenic Enhanced Standard. Comply with Applicable Law. Reimbursement of additional cost of preoxidation chemicals (see Note 2), and suspension of Performance Guarantees for 48 hour SDS TTHM and HAA5 parameters.
Manganese	Monthly average > 1.0 mg/L	Reimbursement of additional cost of preoxidation chemicals (see Note 2), and suspension of Performance Guarantees for 48 hour SDS TTHM and HAA5 parameters.

Table 9-3
Specified Raw Water Quality Parameters⁽¹⁾

Parameter	Raw Water Condition of Relief	Definition and Quantity of Relief
Natural Organic Matter	Annual Average DOC > 5 mg/l or annual average SUVA < 1.1 L/mg-m	Reimbursement of additional cost of GAC regeneration necessary to comply with the Performance Guarantees for TTHM and HAA5 (see Note 3).
	Monthly Average DOC > 7 mg/L	Reimbursement of additional cost of GAC regeneration to comply with the 72 hour SDS TTHM and HAA5 Performance Guarantees (see Note 3). Suspension of Performance Guarantees for 48 hour SDS TTHM and HAA5 parameters.
Bromide	Annual average > 0.2 mg/L	Reimbursement of additional cost of greater GAC regeneration (see Note 3) and suspend Enhanced Standard for Bromate. Comply with Applicable Law. If Applicable Law requires bromate to be =5ug/L, the Company shall not receive any additional relief.
	Any sample >0.3 mg/L.	Suspend Performance Guarantee for True Color.
Ammonia	Monthly average > 0.2 mg/L as N	Reimbursement of additional cost of preoxidation chemicals (see Note 2) and additional cost of GAC regeneration (see Note 3).

Notes to Table 9-3:

1. The results of all Raw Water analyses shall be reported to the City and included in the calculation of reported averages. The following minimum number of samples shall be taken by the Company and reported to the City in order to substantiate a request for relief: (a) when the condition of relief is an annual average value, at least one sample per month for the previous 12-month period and (b) when the condition of relief is a monthly average value, at least one sample per week for the previous month.
2. The additional costs for which the Company is entitled compensation shall be an amount equal to the actual and direct expenses (without markup for profit, administration or otherwise) paid by the Company to unrelated third parties for any bills paid by the Company for extra chemicals used at the Facilities, consistent with Section 11.6 of the Service Agreement.
3. The cost of greater GAC regeneration shall be subject to Cost Substantiation in accordance with Section 15.7 of the Service Agreement.

9.3.2 Turbidity Curve

The Turbidity Curve included as Figure 9-1 represents the 10-day average Raw Water turbidity conditions under which the Company is entitled to relief from the Water Delivery Guarantee as provided in Section 8.7 of the Service Agreement.

9.4 LIQUIDATED DAMAGES AND TERMINATION

9.4.1 Water Treatment Guarantee Liquidated Damages

If the Company (1) fails to meet any of the Enhanced Standards identified in Table 9-1 including the Notes to Table 9-1 or (2) delivers Finished Water to the Water System containing any water quality parameter which results in (i) non-compliance with federal or State maximum contaminant levels (MCLs) or treatment techniques, (ii) the need for public notification of non-compliance, or (iii) the need for a “boil water” notice, the Company shall be subject to liquidated damages in the amounts set forth in Table 9-4. These events are collectively considered non-compliance events. All non-compliance events incur liquidated damages according to the category of the non-compliance event as identified in Table 9-4. All dollar amounts referenced in this Appendix will be adjusted annually by the CPI as provided in Section 8.2 of the Service Agreement.

Table 9-4 Water Treatment Guarantee Liquidated Damages⁽¹⁾				
Frequency and Category of Non-compliance Event	Out of Compliance with:		Requires Public Notice	Requires “Boil Water” Notice
	Table 9-1 Enhanced Standards	Regulatory Standards (MCL or Treatment Technique) ⁽²⁾		
1st Event/Year				
Particulate/ Microbiological	\$10,000 ⁽³⁾	\$50,000	\$125,000	\$500,000 ⁽⁴⁾
Inorganic	\$2,000	\$50,000	\$125,000	
DBPs	\$5,000	\$50,000	\$125,000	
Aesthetic	\$3,000			
Recycle Related	\$1,000	\$10,000		
Other	N.A.	\$50,000	\$125,000	
2nd Event/Year				
Particulate/ Microbiological	\$20,000 ⁽³⁾	\$100,000	\$225,000	\$500,000 ⁽⁴⁾
Inorganic	\$4,000	\$100,000	\$225,000	

**Table 9-4
 Water Treatment Guarantee Liquidated Damages⁽¹⁾**

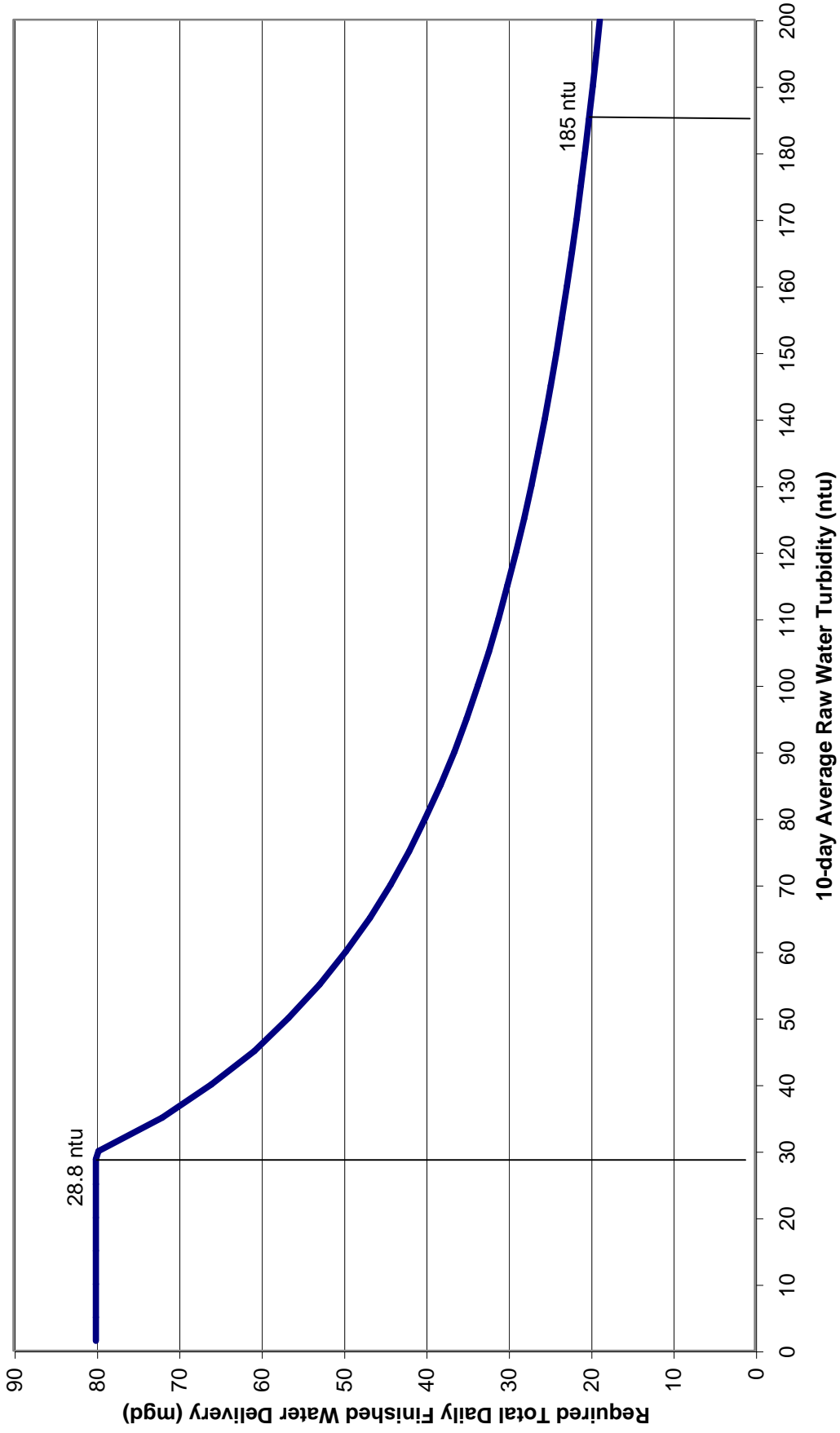
Frequency and Category of Non-compliance Event	Out of Compliance with:		Requires Public Notice	Requires “Boil Water” Notice
	Table 9-1 Enhanced Standards	Regulatory Standards (MCL or Treatment Technique) ⁽²⁾		
DBPs	\$10,000	\$100,000	\$225,000	
Aesthetic	\$6,000			
Recycle Related	\$2,000	\$20,000		
Other	N.A.	\$100,000	\$225,000	
3rd Event (and subsequent events)/ Year				
Particulate/ Microbiological	\$30,000 ⁽³⁾	\$125,000 ⁽⁴⁾	\$275,000 ⁽⁴⁾	\$500,000 ⁽⁴⁾
Inorganic	\$6,000	\$125,000 ⁽⁴⁾	\$275,000 ⁽⁴⁾	
DBPs	\$15,000	\$125,000 ⁽⁴⁾	\$275,000 ⁽⁴⁾	
Aesthetic	\$9,000			
Recycle Related	\$3,000	\$30,000		
Other	N.A.	\$125,000 ⁽⁴⁾	\$275,000 ⁽⁴⁾	

Notes to Table 9-4:

- (1) All liquidated damages are per occurrence and are additive. Liquidated damages for a particular violation will be assessed at the frequency of reporting of the parameter; however, liquidated damages for a particular violation will not be imposed more than once per 24-hour period. For example, if the performance value is a monthly average or running annual average of monthly averages, liquidated damages could not be assessed more than once per month. If two consecutive months are in violation of the performance value, it will be considered to be two violations.
- (2) Liquidated damages apply to exceedances of regulatory standards at (a) the Plant and (b) in the Water System only if the Plant fails to meet a Water Treatment Guarantee and such non-compliance results in an exceedance of a regulatory standard in the Water System.
- (3) Liquidated damages will not be assessed for readings of continuous Finished Water Chlorine Residual levels that are greater than the performance value range. Liquidated damages will be assessed for readings of continuous Finished Water Chlorine Residual levels that are less than the performance value range and for weekly average values outside the weekly average performance value range.
- (4) Non-compliance event provides grounds for termination of the Service Agreement in accordance with Section 12.2 of the Service Agreement.

N.A. – Not Applicable.

Figure 9-1 [To be revised based on Proposed Turbidity Curve]
Turbidity Curve



Attachment C – Replacement Pages for Appendix 11

APPENDIX 11 – INSURANCE REQUIREMENTS 1

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APPENDIX 11 – INSURANCE REQUIREMENTS

11.1 REQUIRED DESIGN/BUILD PERIOD INSURANCE

11.1.1 Generally

The Company and its Subcontractors shall procure and maintain until all of their obligations have been discharged, including any warranty periods under the Service Agreement are satisfied, ~~insurance~~ the Required Design/Build Period Insurance herein against claims for injury to persons or damage to property, which may arise from or in connection with the performance of the Design/Build Work by the Company, its agents, representatives, employees or Subcontractors. The Company may, at its option and with the prior approval of the City, elect to comply with its obligations to provide the Required Design/Build Period Insurance herein by providing a Contractor Controlled Insurance Program or other “wrap-up” insurance program.

The Required Design/Build Period Insurance herein represents minimum requirements for the Service Agreement and in no way limits the indemnity covenants contained in the Service Agreement.

The City in no way warrants that the minimum limits contained herein are sufficient to protect the Company from liabilities that might arise out of the performance of the Design/Build Work by the Company, its agents, representatives, employees or Subcontractors, and the Company is free to purchase such additional insurance as it determines necessary.

11.1.2 Minimum Scope and Limits of Required Design/Build Period Insurance

The Company shall provide coverage at least as broad and with limits of liability not less than those stated below:

1. **Commercial General Liability – Occurrence Form**

General <u>Per Occurrence and Annual</u>	
Aggregate <u>for this Project covering the</u>	
<u>Design/Build Period</u>	\$50,000,000
Products – Completed Operations Aggregate	\$50,000,000

These requirements may be met with any combination of primary and excess coverage so long as the excess coverage is written on a “follow form” basis.

2. **Automotive Automobile Liability – Any Auto or Owned, Hired and Non-Owned Vehicles**

Combined Single Limit per Accident for Bodily Injury and Property Damage	\$ 1,000,000
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3. **Workers’ Compensation and Employer’s Liability**

Workers’ Compensation	Statutory
Employer’s Liability	
Each Accident	\$ 1,000,000
Disease – Each Employee	\$ 1,000,000
Disease – Policy Limit	\$ 1,000,000

4. **Professional Liability (E&O)**

Each Claim	\$10,000,000
Annual Aggregate	\$10,000,000

5. **Builders’ Risk Insurance (Course of Construction)**

In an amount equal to the construction portion of the Fixed Design/Build Price, as adjusted pursuant to the Service Agreement. This coverage shall include coverage for Installation of all equipment, Extra Expense in the amount of at least \$1,000,000, and Expediting Expense in the amount of at least \$1,000,000.

6. **Contractor Pollution Liability**

Each Occurrence	\$10,000,000
Annual Aggregate Limit	\$10,000,000

11.1.3 Self-Insured Retentions/Deductibles

Any self-insured retentions and deductibles in excess of \$10,000 must be declared and approved by the City. The Company shall pay all deductibles.

11.1.4 Other Insurance Requirements

The policies are to contain, or be endorsed to contain, the following provisions:

1. Commercial General Liability and Automobile Liability Coverages
 - a. *The City of Phoenix, its officers, officials, employees, and agents are to be listed as ~~additional insureds~~ Additional Insureds with respect to liability arising out of: activities performed by, or on behalf of, the Company including the City's general supervision of the Company; products and*

completed operations of the Company; and automobiles owned, leased, hired, or borrowed by the Company.

- b. The Company's insurance shall contain broad form contractual liability coverage and shall not exclude liability arising out of explosion, collapse, or underground property damage hazards (XCU) coverage.
 - c. The City, its officers, officials, agents and employees shall be ~~additional insureds~~Additional Insureds to the full limit of liability purchased by the Company even if those limits of liability are in excess of those required by this contract. The Commercial General Liability additional insured endorsement will be at least as broad as the Insurance Service Office, Inc.'s Additional Insured, Form B CG 20 10 11 85.
 - d. The Company's insurance coverage shall be primary insurance with respect to the City, its officers, officials, agents and employees. Any insurance or self-insurance maintained by the City, its officers, officials, agents or employees shall be in excess to the coverage of the Company's insurance and shall not contribute to it.
 - e. The Company's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
 - f. Coverage provided by the Company shall not be limited to the liability assumed under the indemnification provisions of the Service Agreement.
 - g. The policies shall contain a waiver of subrogation against the City, its officers, officials, agents and employees for losses arising from work performed by the Company for the City.
 - h. The Commercial General Liability policy shall be endorsed to provide three (3) years of Completed Operations coverage. This three (3) year Completed Operations coverage shall commence upon the Final Completion of the Facilities.
2. Worker's Compensation and Employers Liability Coverage

The insurer shall agree to waive all rights of subrogation against the City, its officers, agents and employees for losses arising from work performed by the Company for the City.

3. Builders' Risk Insurance (Course of Construction)

- a. Builders' Risk Insurance shall be maintained until whichever of the following shall first occur: (1) ~~final payment has been made~~ Final Completion under the Service Agreement; or (2) until no person or entity, other than the City, has an insurable interest in the property required to be covered.
- b. The Builders' Risk ~~insurance~~ Insurance shall be endorsed such that the insurance shall not be canceled or lapse because of any partial use or occupancy by the City or the Company.
- c. This insurance shall include as Named Insureds, the City, the Company, Subcontractors, engineer and engineer's consultant and any others with an insurable interest in the Design/Build Work.
- d. This insurance shall be written on all risk, replacement cost basis and shall include, ~~if specifically requested by the City,~~ coverage for flood and earthquake.
- e. All rights of subrogation are hereby waived against the City, its officers, officials, agents and employees.
- f. Builders' Risk Insurance must provide coverage from the time any covered property becomes the responsibility of a Named Insured, and continuing without interruption during construction, renovation, or installation, including any time during which the covered property is being transported to the construction installation site, or awaiting installation, whether on- or off-site.
- g. The Company is responsible for payment of all deductibles under the Builders' Risk ~~Policy~~ Insurance.

4. Professional Liability (E&O)

- a. The Professional Liability insurance shall be written on a claims-made basis and shall, in addition to the Design/Build Period, be maintained during the entire Term of the Service Agreement ~~(i.e., post Acceptance)~~.
- b. This insurance shall include as Named Insureds, the Company, its Subcontractors and its architects and engineers.
- c. The coverage shall not include any exclusionary language pertaining to environmental conditions or activities.

5. Contractor Pollution Liability

The Contractor Pollution Liability coverage shall be written on an Occurrence form basis and shall be maintained for the entire Design/Build Period.

11.1.5 Notice of Cancellation

Each insurance policy required by the insurance provisions of the Service Agreement shall provide the required coverage and shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after 30 days' prior written notice has been given to the City. Such notice shall be sent directly to the ~~City's Contract Representative and shall be sent by certified mail, return receipt requested~~ WSD Director in accordance with Section 15.16 of the Service Agreement.

11.1.6 Acceptability of Insurers

Insurance is to be placed with insurers duly licensed or approved unlicensed companies in the State of Arizona and with a "Best's" rating of not less than A-VII. The City in no way warrants that the above-required minimum insurer rating is sufficient to protect the Company from potential insurer insolvency.

11.1.7 Verification of Coverage

The Company shall furnish the City with Certificates of Insurance (ACORD form, modified as above, or equivalent approved by the City) with original endorsements effecting coverage as required by the Service Agreement. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. Any policy endorsements that restrict or limit coverage shall be clearly noted on the certificate of insurance.

All certificates and endorsements for the Required Design/Build Period Insurance are to be received and approved by the City on or before the Contract Date and annually thereafter in accordance with Section 13.1 of the Service Agreement. Each insurance policy required by the Service Agreement must be in effect at or prior to commencement of the Design/Build Work under the Service Agreement and remain in effect for the duration of the Design/Build Period. Failure to maintain the insurance policies as required by the Service Agreement or to provide evidence of renewal is a material breach of contract.

All Certificates required by the Service Agreement shall be sent directly to the ~~City's Contract Representative~~ WSD Director at the address specified in Section 15.16 of the Service Agreement.

The project number and project description are to be noted on the Certificate of Insurance. The

City reserves the right to require complete, certified copies of all insurance policies required by the Service Agreement, at any time.

11.1.8 Subcontractors

The Company's certificates shall include all Subcontractors as insureds under its policies or the Company shall furnish to the City separate certificates and endorsements for each Subcontractor. All coverages for Subcontractors shall be sufficient to cover all of ~~its~~[their](#) work performed ~~herein~~[under the Service Agreement](#).

11.1.9 Approval

Any modification or variation from the insurance requirements in the Service Agreement shall be made by the City's Law Department, whose decision shall be final. Such action will not require a formal Service Agreement amendment, but may be made by administrative action [pursuant to a Contract Administration Memorandum](#).

11.2 REQUIRED OPERATION PERIOD INSURANCE

11.2.1 Generally

The Company and its Subcontractors shall procure and maintain until all of their obligations have been discharged, including any warranty periods under the Service Agreement are satisfied, ~~insurance~~[the Required Operation Period Insurance herein](#) against claims for injury to persons or damage to property, which may arise from or in connection with the performance of the Operation Services by the Company, its agents, representatives, employees or Subcontractors. [The Company may, at its option and with the prior approval of the City, elect to comply with its obligations to provide the Required Operation Period Insurance herein by providing a Contractor Controlled Insurance Program or other "wrap-up" insurance program.](#)

The Required Operation Period Insurance herein represents minimum requirements for the Service Agreement and in no way limits the indemnity covenants contained in the Service Agreement.

The City in no way warrants that the minimum limits contained herein are sufficient to protect the Company from liabilities that might arise out of the performance of the Operation Services by the Company, its agents, representatives, employees or Subcontractors, and the Company is free to purchase such additional insurance as it determines necessary.

The City shall maintain the property insurance on the buildings, fixtures and contents constituting the Facilities. However, the Company shall remain responsible for insuring its own personal property located on the premises. The City shall not be liable in any way for loss or damage to the personal property of the Company, its Subcontractors or any of their employees at any time. The Company may purchase business interruption insurance for itself as it deems appropriate; however, the City will not be responsible for compensating the Company for any business interruption expense that occurs during the Operation Period.

11.2.2 Minimum Scope and Limits of Required Operation Period Insurance

In addition to the continued maintenance of the Professional Liability coverage throughout the Operation Period as required by Section 11.1.4, the Company shall provide coverage at least as broad and with limits of liability not less than those stated below:

1. Commercial General Liability – Occurrence Form

General Aggregate for the Operation Services for this Project	\$25,000,000
Products – Completed Operations Aggregate	\$25,000,000
Fire Damage (any one fire)	\$25,000,000

These requirements may be met with any combination of primary and excess coverage so long as the excess coverage is written on a “follow form” basis.

~~2. Automotive~~ [Automobile](#) Liability – Any Auto or Owned, Hired and Non-Owned Vehicles

Combined Single Limit per Accident for Bodily Injury and Property Damage	\$ 1,000,000
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3. Workers’ Compensation and Employer’s Liability

Workers’ Compensation	Statutory
Employer’s Liability	
Each Accident	\$ 1,000,000
Disease – Each Employee	\$ 1,000,000
Disease – Policy Limit	\$ 1,000,000

4. Pollution Legal Liability

Each Occurrence	\$10,000,000
Annual Aggregate Limit	\$10,000,000

The limits on liability set forth in this Section 11.2.2 shall be adjusted annually from the Contract Date by the CPI. Such adjustments shall be rounded up to the nearest \$1,000.

11.2.3 Self-Insured Retentions/Deductibles

Any self-insured retentions and deductibles in excess of \$10,000 must be declared and approved by the City. The Company shall pay all deductibles.

11.2.4 Other Insurance Requirements

The policies are to contain, or be endorsed to contain, the following provisions:

1. Commercial General Liability and Automobile Liability Coverages
 - a. *The City of Phoenix, its officers, officials, employees, and agents are to be listed as ~~additional insureds~~Additional Insureds with respect to liability arising out of: activities performed by, or on behalf of, the Company including the City's general supervision of the Company; products and completed operations of the Company; and automobiles owned, leased, hired, or borrowed by the Company.*
 - ~~b. The Commercial General Liability definition of "occurrence" shall be broadened to mean any accident or event, including continuous or repeated exposure to generally the same harmful conditions.~~
 - b. ~~e.~~ The Commercial General Liability policy shall provide Products coverage for "potable water or agricultural water or water furnished to commercial users" with no exclusionary wording or limitation to pollutants.
 - ~~d.~~ c. The Commercial General Liability policy shall be endorsed to provide three (3) years of Completed Operations coverage.
 - ~~e.~~ d. The Company's insurance shall contain broad form contractual liability coverage and shall not exclude liability arising out of explosion, collapse, or underground property damage hazards (XCU) coverage.
 - ~~f.~~ e. The City, its officers, officials, agents and employees shall be ~~additional insureds~~Additional Insureds to the full limit of liability purchased by the Company even if those limits of liability are in excess of those required by this contract. The Commercial General Liability additional insured

endorsement will be at least as broad as the Insurance Service Office, Inc.'s Additional Insured, Form B CG 20 10 11 85.

- g.f.** The Company's insurance coverage shall be primary insurance with respect to the City, its officers, officials, agents and employees. Any insurance or self-insurance maintained by the City, its officers, officials, agents or employees shall be in excess to the coverage of the Company's insurance and shall not contribute to it.
- h.g.** The Company's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.
- i.h.** Coverage provided by the Company shall not be limited to the liability assumed under the indemnification provisions of the Service Agreement.
- j.i.** The policies shall contain a waiver of subrogation against the City, its officers, officials, agents and employees for losses arising from work performed by the Company for the City.

2. Worker's Compensation and Employers Liability Coverage

The insurer shall agree to waive all rights of subrogation against the City, its officers, agents and employees for losses arising from work performed by the Company for the City.

3. Pollution Liability

- a. The Company's Pollution Legal liability shall be written on an Occurrence form basis and shall be maintained for the Term of the Service Agreement.
- b. This insurance shall provide the following coverage: Products both on- and off- site of the Facilities for intended final usage are to be understood as "Completed Operations".
- c. This insurance shall provide for on-site and off-site cleanup and bodily injury and property damage to third parties for new conditions arising from the Company's performing the Operation Services under the Service Agreement.

Coverage shall be triggered either by a third party seeking remedy or by the insured's discovery of pollution conditions.

11.2.5 Notice of Cancellation

Each insurance policy required by the insurance provisions of the Service Agreement shall provide the required coverage and shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after 30 days' prior written notice has been given to the City. Such notice shall be sent directly to the ~~City's Contract Representative and shall be sent by certified mail, return receipt requested~~ WSD Director in accordance with Section 15.16 of the Service Agreement.

11.2.6 Acceptability of Insurers

Insurance is to be placed with insurers duly licensed or approved unlicensed companies in the State of Arizona and with a "Best's" rating of not less than A-:VII. The City in no way warrants that the above-required minimum insurer rating is sufficient to protect the Company from potential insurer insolvency.

11.2.7 Verification of Coverage

The Company shall furnish the City with Certificates of Insurance (ACORD form, modified as above, or equivalent approved by the City) with original endorsements effecting coverage as required by the Service Agreement. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. Any policy endorsements that restrict or limit coverage shall be clearly noted on the certificate of insurance.

All certificates and endorsements for the Required Operation Period Insurance are to be received and approved by the City prior to ~~Acceptance~~ Final Completion and annually thereafter in accordance with Section 13.1 of the Service Agreement. Each insurance policy required by the Service Agreement must be in effect at or prior to commencement of the Operation Services under the Service Agreement and remain in effect for the Term of the Service Agreement. Failure to maintain the insurance policies as required by the Service Agreement or to provide evidence of renewal is a material breach of contract.

All Certificates required by the Service Agreement shall be sent directly to the ~~City's Contract Representative~~ WSD Director at the address specified in Section 15.16 of the Service Agreement. The project number and project description are to be noted on the Certificate of Insurance. The

City reserves the right to require complete, certified copies of all insurance policies required by the Service Agreement, at any time.

11.2.8 Subcontractors

The Company's certificates shall include all Subcontractors as insureds under its policies or the Company shall furnish to the City separate certificates and endorsements for each Subcontractor. All coverages for Subcontractors shall be sufficient to cover all of ~~its~~their work performed ~~herein~~under the Service Agreement.

11.2.9 Approval

Any modification or variation from the insurance requirements in the Service Agreement shall be made by the City's Law Department, whose decision shall be final. Such action will not require a formal Service Agreement amendment, but may be made by administrative action pursuant to a Contract Administration Memorandum.

11.2.10 Changes in Insurance Coverage

The Company shall use its best efforts to obtain such additional ~~insurance~~Required Operation Period Insurance as the City may request from time to time, and the costs of such additional ~~insurance~~Required Operation Period Insurance shall be ~~a pass-through cost to~~reimbursed by the City in the same manner as provided in Section 11.6 of the Service Agreement; provided that the Company shall not be entitled to reimbursement by the City for increases in such costs (premiums) to the extent such increases are caused by extraordinary claims under policies issued to the Company, the Guarantor or any of their Affiliates other than claims arising from Uncontrollable Circumstances. The amount of any such increases shall be for the account of the Company.

11.2.11 Cost of Insurance

The City may elect to obtain and maintain any of the insurance outlined in this Section 11.2, provided that:

(a) written notice is received by the Company at least 90 days prior to the Contract Year during which the City will assume such responsibility or 90 days prior to the expiration date of the insurance placed by the Company;

(b) the City may at any time during the Term of the Service Agreement, upon 90 days' written notice prior to any Contract Year, require the Company to reassume the responsibility for obtaining and maintaining the Required Operation Period Insurance;

(c) the City names the Company and the Guarantor as an additional insureds upon assumption of such responsibility;

(d) the City pays any cancellation penalty (or short-rate) arising out of canceling the Company provided coverage required by this Section 11.2, prior to its expiration date; and

(e) the Company shall pay the City, in each Contract Year, an amount equal to the proportionate costs of such insurance as the Company has been providing to the City, which costs shall be subject to Cost Substantiation.



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