DECISION PROCESS toward Design of a Tank Maintenance Contract
SCOPE of WORK / PROJECT

SCOPE of WORK

PRELIMINARY FIELD INSPECTION

STRUCTURAL, COATING, SAFETY & HEALTH

FINANCING in HOUSE

ANTENNA and ANTENNA INTERFERENCE

FINANCING by ENGINEER
SCOPE of WORK / PROJECT

- STRUCTURAL, COATING, SAFETY & HEALTH
- PRELIMINARY FIELD INSPECTION
- ANTENNA and ANTENNA INTERFERENCE
- FINANCING in HOUSE
- FINANCING by ENGINEER
ANTENNA CONTRACTS MUST BE INCLUDED by REFERENCE in TANK MAINTENANCE CONTRACTS, as well as CLAUSES AS TO WHAT HAPPENS WHEN THE CARRIER CONTRACT IS MODIFIED OR TERMINATED.

IS THERE AN EXTRA or DOES THE CONTRACTOR GET A PIECE OF THE MONEY PIE?
WHO SHOULD PAY FOR MODIFICATIONS
SCOPE of WORK / PROJECT

- PRELIMINARY FIELD INSPECTION
  - STRUCTURAL, COATING, SAFETY & HEALTH
  - ANTENNA and ANTENNA INTERFERENCE
  - FINANCING in HOUSE
  - FINANCING by ENGINEER
DEVELOP WORK / PROJECT
ENGINEER MANAGED CONTRACT

SCOPE of WORK / PROJECT

PREPARE SPECIFICATIONS and SOLICIT SUBCONTRACTOR’S PRICES ADD MANAGEMENT and ENGINEERING FEES

ADD ANNUAL WORK and CATHODIC PROTECTION BASED on 25 YEAR Plan

APPLY ALTERNATE INFLATION FACTORS & CREATE SPREADSHEETS
<table>
<thead>
<tr>
<th>Year</th>
<th>Foundation Painting</th>
<th>Concrete and Masonry</th>
<th>Structural Inspection</th>
<th>Total Repairs Maintenance</th>
<th>Total Tank 3 Preinflation Costs</th>
<th>Total Tank 1 Preinflation Costs</th>
<th>Total Tank 2 Preinflation Costs</th>
<th>Total 3 Tank Preinflation Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2015</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2016</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2017</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2018</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2019</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2020</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2021</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2022</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2023</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2024</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2025</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2026</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2027</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2028</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2029</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2030</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2031</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2032</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2033</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2034</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2035</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2036</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2037</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2038</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2039</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2040</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2041</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
<tr>
<td>2042</td>
<td>$25,000</td>
<td>$2,500</td>
<td>$5,000</td>
<td>$185,000</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
<td>$1,093</td>
</tr>
</tbody>
</table>

**Reserve or Deficit:**

$286,790

$286,790

$10,590

$286,790

$286,790
SCOPE of WORK / PROJECT

SCOPE of WORK

PRELIMINARY FIELD INSPECTION

STRUCTURAL, COATING, SAFETY & HEALTH

ANTENNA and ANTENNA INTERFERENCE

FINANCING in HOUSE

FINANCING by ENGINEER
**RESERVE OR DEFICIT**

**INFLATION FACTOR = 3%**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ANNUAL COST Preinflation</strong></td>
<td>$322,000</td>
<td>$3,500</td>
<td>$1,500</td>
<td>$1,500</td>
<td>$3,500</td>
<td>$632,000</td>
<td>$3,500</td>
<td>$1,500</td>
<td>$1,500</td>
<td>$208,500</td>
<td>$332,775</td>
</tr>
<tr>
<td><strong>3% Annual Inflation</strong></td>
<td>1.0000</td>
<td>1.0300</td>
<td>1.0609</td>
<td>1.0927</td>
<td>1.1255</td>
<td>1.1593</td>
<td>1.1941</td>
<td>1.2299</td>
<td>1.2668</td>
<td>1.3048</td>
<td>$1,012,631</td>
</tr>
<tr>
<td><strong>TOTAL Annual Cost</strong></td>
<td>$322,000</td>
<td>$3,605</td>
<td>$1,591</td>
<td>$1,639</td>
<td>$3,939</td>
<td>$732,661</td>
<td>$4,179</td>
<td>$1,845</td>
<td>$1,900</td>
<td>$272,045</td>
<td></td>
</tr>
<tr>
<td><strong>INTEREST</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>RESERVE or DEFICIT</strong></td>
<td>$255,446</td>
<td>$192,497</td>
<td>$127,534</td>
<td>$62,619</td>
<td>0</td>
<td>$530,140</td>
<td>$331,793</td>
<td>$131,112</td>
<td>$69,514</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**DEFICIT = INTEREST**
IF OWNER HOLDS THE MONEY RESERVED THE INFLATION FACTOR CAN BE LARGER

<table>
<thead>
<tr>
<th>4% Annual Inflation</th>
<th>1.0000</th>
<th>1.0400</th>
<th>1.0816</th>
<th>1.1249</th>
<th>1.1699</th>
<th>1.2167</th>
<th>1.2653</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Annual Cost</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Annual Payment</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>RESERVE (NO DEFICIT ON OWNER FINANCED)</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>
CONTRACT PREPARATION

CONTRACT CLAUSES

TERMINATION for CONVENIENCE
TERMINATION for CAUSE
RESERVE DISTRIBUTION upon TERMINATION
DISTRIBUTION of EARNINGS of RESERVE
DELAY CLAUSE
SUBSTITUTION CLAUSE
DEFINITIONS
  PAYMENT vs. FEE
  WORK vs. PROJECT
FINANCING if INCLUDED
INFLATION ADJUSTMENT ANNUALLY
INFLATION CORRECTION EVERY FIVE YEARS
INSURANCES
BONDS

  PERFORMANCE
  PAYMENT
  FIDUCIARY
PROJECT DELIVERY
CONTRACT FORMAT DECISIONS

- TANK MAINTENANCE CONTRACTS
- ASSET MANAGEMENT
- TASK ORDER
CONTRACT CLAUSES

TERMINATION for CONVENIENCE
TERMINATION for CAUSE
RESERVE DISTRIBUTION upon TERMINATION
DISTRIBUTION of EARNINGS FROM RESERVE
DELAY CLAUSE
SUBSTITUTION CLAUSE
FLEXIBILITY CLAUSES

DELAY CLAUSE : WHAT HAPPENS if THE TANK DOES NOT NEED PAINTING WHEN SCHEDULED

SUBSTITUTION CLAUSES: WHAT HAPPENS if the COATING SPECIFIED is NOT MANUFACTURED in 10 YEARS WHEN YOU RECOAT

WHAT if ADDITIONAL ANTENNA CARRIERS ARE ADDED TO THE TANK and WHAT IF THEY DAMAGED the COATINGS
CONTRACT CLAUSES

DEFINITIONS

PAYMENT vs. FEE
WORK vs. PROJECT

FINANCING if INCLUDED

INFLATION ADJUSTMENT ANNUALLY
INFLATION CORRECTION EVERY FIVE YEARS

INSURANCES
BONDS

PERFORMANCE
PAYMENT
FIDUCIARY

PAYMENT SCHEDULE
CONTRACT CLAUSES for GENERAL, SUPPLEMENTAL, and FLEXIBLE CONDITIONS

PREVAILING WAGES
WORKING HOURS
SOUND RESTRICTIONS
ACCESS RESTRICTIONS
WORK TIME FRAME and OUT of SERVICE TIME
TYPICAL CONTRACTS

DO NOT SETTLE FOR A TYPICAL CONTRACT
NEGOTIATE TO FIT YOUR NEEDS/WANTS
SAMPLE CONTRACTS TASK

- 2016 Blast and Paint  realign antennas
- 2017 Warranty
- 2018 Security Inspection
- 2019 Security Inspection
- 2020 Cathodic and Maintenance Inspection
FLEXIBLE

SELF INSURED – The Owner saves into a dedicated fund held by Owner usually at a slightly higher inflation rate. If task order comes in low Owner keeps difference.

INSURED by CONTRACT – Prices are fixed and if the Manager of the Plan gets a lower bid, it is their profit, if bid prices come in higher than contracted; the managing firm pays the extras.

PROJECT AFTER CARE – Similar to an extended Maintenance Contract, your tank is rehabilitated and then you look ahead

5 YEAR PAY PLAN – Project costs are annualized over 5 years or other period of time. Eligible to start PAC in year 6