INDEPTH Guyed Tower Anchor Corrosion Control Flow Chart
For
EXISTING STRUCTURES

Add points from each category to determine range

OPTION 1

Points Range: ≤ 5
Action: Reanalyze in 3 - 5 yrs.

OPTION 2

Points Range: 6 - 8
Action: Install AnchorGuard
View ANSI/TIA222-G

OPTION 3

Points Range: 9 - 11
Action: Dig / Inspect anchors to concrete block & install protection

See reverse side for additional information on this flow chart.
Reading the Flow Chart

This flow chart is designed to provide a simple and easy method to determine what course of action one must take to protect their towers. View ANSI/TIA 222-G for further information on approved methods of cathodic protection.

**Note:** For a complete method of procedure on assessing the condition of tower anchors and the various methods of corrosion protection, refer to the Anchor Inspection Standard 4/06. It is advisable to install cathodic protection on all guyed towers, especially new structures.

**Corrosion Severity Factor (CSF)**

Anchor shafts shall be given a rating at time of inspection relative to the severity of the corrosion found. The rating is based on a scale referred to hereafter as the *corrosion severity factor* or CSF. Corrosion Severity Factor shall be measured at the most corroded area of the shaft.

1. **Corrosion Severity Factor 1** (CSF 1) includes the following: Galvanizing in tact, no signs of rust, no cross sectional material loss. Anchors rated CSF 1 should be monitored in the future during regular tower inspections.

2. **Corrosion Severity Factor 2** (CSF 2) includes any of the following: Galvanizing slightly to mostly gone, rust spots prevalent, minor pitting or flaking, no cross sectional material loss. Additional corrosion control is highly recommended.

3. **Corrosion Severity Factor 3** (CSF 3) includes ANY of the following: Galvanizing mostly to completely gone, heavily corroded, deep pitting, large areas of flaking, measurable cross sectional material loss. Anchors rated CSF 3 require additional corrosion control methods and may require repair or replacement.

**Soil Analysis**

Collect a forty-eight ounce sample or six cups of soil from the bottom of the excavation and store in a water tight container. Soil from one anchor is adequate to perform necessary tests.

2.3.1 Laboratory test the sample in both as-found and saturated state to determine resistivity in ohm-centimeters.

<table>
<thead>
<tr>
<th>Resistivity in ohm/cm</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 5,000</td>
<td>Very Corrosive</td>
</tr>
<tr>
<td>5,000 – 10,000</td>
<td>Moderately Corrosive</td>
</tr>
<tr>
<td>10,000 – 25,000</td>
<td>Progressively Less Corrosive</td>
</tr>
</tbody>
</table>

**Importance of Tower**

(From ANSI/TIA-222-G Table 2-1)

<table>
<thead>
<tr>
<th>Description of the Structure</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structures that due to height, use or location represent a low hazard to human life and damage to property in the event of failure and/or used for services that are optional and/or where a delay in returning the services would be acceptable.</td>
<td>I</td>
</tr>
<tr>
<td>Structures that due to height, use or location represent a substantial hazard to human life and/or damage to property in the event of failure and/or used for services that may be provided by other means.</td>
<td>II</td>
</tr>
<tr>
<td>Structures that due to height, use or location represent a high hazard to human life and/or damage to property in the event of failure and/or used primarily for essential communications.</td>
<td>III</td>
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</tbody>
</table>