Case No. 50

Two victims and a rescuer suffered from anoxia in a sewerage system manhole

[Description of the Accident]

This accident occurred during the work to lift a drain pump through a manhole in a sewerage construction work.

The work was to replace the pipes for rain water. As another drain pump became necessary, it was decided to use the drain pump in another manhole for which work was almost completed.

Accordingly, two workers opened the cover of the manhole and entered by using a ladder.

After a short while, a colleague who was going to the material shed spotted the two workers lying at the bottom when he looked into the manhole, and raised an alarm with other workers. One of the workers who ran to the spot entered the manhole and called out to them, but received no answer. Immediately after this, this worker also collapsed.

Although the three were taken to a hospital by a rescue team, the two workers died and the would-be rescuer was hospitalized with brain damage caused by hypoxia.

The two fatalities were attributed to anoxia.

[Causes supposed]

1. Although boring survey results had been provided by the order-placer, neither the general contractor nor the subcontractor recognized the working site as presenting a fear of anoxia.

2. The workers failed to measure the oxygen content of the inside and to carry out ventilation measures before entering the manhole.

3. An operations chief was not appointed.

4. Neither special education nor rescue training concerning work at sites with the danger of anoxia was provided to workers.
<table>
<thead>
<tr>
<th><strong>Type of business</strong></th>
<th>Waterworks and sewerage construction</th>
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</thead>
<tbody>
<tr>
<td><strong>Caused by</strong></td>
<td>Lack of oxygen</td>
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<tr>
<td><strong>Type of accident</strong></td>
<td>Contact with harmful substance, etc</td>
</tr>
<tr>
<td><strong>Number of fatalities</strong></td>
<td>Two fatalities and one injury</td>
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</tbody>
</table>

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