

Pasadena Citizens' Advisory Council

How Plants Prevent Flooding on and off the Plant Site

April 26, 2022

For Pasadena Citizens' Advisory Council's second of four meetings on flooding, a round robin discussion let plant members describe what they do to prevent flooding on and off the plant site. Some PCAC plants are located on the Houston Ship Channel. Others are along SH 225. There were common themes as well as unique features in the flood prevention efforts of the 18 PCAC plants.

Plants spoke of the importance of preventive maintenance on equipment like pumps that might go underwater as well as routine and frequent housekeeping to prevent debris from blocking drains and outfalls. Plants use storage ponds or storage tanks to retain floodwater, which is then tested before being released gradually to the ship channel. Retention ponds and drainage ditches must be dredged routinely to be effective.

As a storm approaches, tanks that store stormwater may be pumped down to create capacity, whereas water may be added to tanks that store products like gasoline or chemicals. Plant have already calculated how much liquid needs to be in each tank so it will not move if floodwaters are high enough to float it.

Members found it interesting that 4 plants on the same site along the ship channel have a dike wall and a levee to protect them from the ship channel. Large interlocking concrete pieces are set in place by a crane before the storm approaches.

The newest PCAC plant, which is still under construction, falls under City of Pasadena stormwater rules requiring design such that the peak flow of stormwater to the flood control ditch will be the same or less than before the project was built.

All plants have hurricane plans, which are reviewed and updated in the months before hurricane season. Plants conduct drills to exercise these plans.

On May 24, 2022, the third meeting on flooding will focus on projects underway or planned, with speakers from the City of Pasadena and the Harris County Flood Control District.