



Challenge Updates

Project Updates

24 October 2017

UPDATE 6 – WATER, WATER EVERYWHERE

Allowable Presentation Techniques at Official Events

This update is to give teams and event managers guidance on what types of demonstrations of model solutions and prototypes will be allowed at events.

We realize teams may be working on water filtration and purification solutions, and plan to use these devices as part of their research presentation at events. Due to potential safety hazards, as well as venue restrictions, we ask teams to bring their project solution prototype **without water or liquid(s)** and instead recommend teams present a short video of the working prototype to demonstrate the functionality and/or solution they developed for their project presentation.

19 October 2017

UPDATE 5 – FLOODS V 2.0

Clarification of Update 4

Update 4 specifically addressed a sub-set of issues associated with floods: “controlling the structural damage or immediate threats to human life caused by natural floods.”

A further clarification of the definition of “flood” may also be useful here: “An overflow of water onto lands that are used or usable by man and not normally covered by water. Floods have two essential characteristics: The inundation of land is temporary; and the land is adjacent to and inundated by overflow from a river, stream, lake, or ocean.” [[USGS](#)] The term “natural” was included in the Update to highlight this particular characteristic of a “flood,” that it’s associated with a [natural] body of water. This includes floods caused by hurricanes, tropical storms, and other marine weather systems.



Update 4 does not rule out floods as a topic for the Project, however, it does limit it to issues that influence the human water cycle: “An example of this type of linkage might be flood contamination of a water source that will be used by humans.” So, teams should NOT consider topics like building flood-resistant structures, or improving search and rescue (SAR) techniques during flooding.

Contamination due to storm water runoff, and investigating problems with storm sewers, is not discussed in Update 4; and in fact, some of the problems associated with runoff are specifically addressed in the Guide. (See page 7, and Glossary definitions for “runoff,” “storm sewer,” and “infiltration.”)

5 September 2017

UPDATE 4 – FLOODS

Clarification of Water Disposal

The problem your team investigates must be a part of the human water cycle. For the HYDRO DYNAMICSSM Project, this means “the ways people find, transport, use, and dispose of water in order to meet a specific need or desire.” Since this definition explains the path that water takes when utilized by humans, water “disposal” here refers to “wastewater,” or water that has already been used by humans in homes, industries, and businesses. Water disposal does NOT refer to the removal of floodwaters. Therefore, controlling the structural damage or immediate threats to human life caused by natural floods would NOT be appropriate topics for the Project. In order for natural flooding to be a suitable topic, it must be clearly linked to the human water cycle, and a human use of water. An example of this type of linkage might be flood contamination of a water source that will be used by humans.

29 August 2017

UPDATE 3 – SEA LEVEL RISE

Clarification of the Human Use of Water

The potential for sea level rise is an issue of great concern for many communities. In order for this subject to be an acceptable Project topic, your team should be able to relate sea level rise to a problem in the human water cycle. Please remember to focus on a human use of water.

UPDATE 2 – NARROWING YOUR FOCUS

Clarification of the Phases of the Human Water Cycle





While the definition of the human water cycle includes four phases (“find, transport, use, and dispose”), your team does NOT have to investigate all of these as part of your Project. You may focus on one or more parts of the human water cycle when identifying a problem and designing a solution.

UPDATE 1 – FRESH WATER VS. SALT WATER

Clarification of Categories of Water

The HYDRO DYNAMICSSM Project is not limited to the study of fresh water. Teams may explore a use of fresh water, brackish water or salt water. However, the problem your team selects should be a part of the human water cycle. The human water cycle is defined as, “the ways people find, transport, use, and dispose of water in order to meet a specific need or desire.” So, whatever type of water your team selects, you should be able to clearly demonstrate how the water is used to meet a human need.

Robot Game Updates

NOTICE: Update 4 has been reworded, and Update 2 has been renamed.

7 November 2017

UPDATE 10 – WELL SLIDER CONTACT LENIENCY

When all four of a Water Well’s black slider buttons are in contact with the mat, that Well will be scored as if its entire circular base is in full/flat contact with the mat wherever the well is. Restated: Although it’s true that the sliders keep the circular base off the mat, the well will be scored as if the sliders were taken away.

UPDATE 9 – FOUNTAIN AND FLOWER RISE

Each of these missions requires something to “rise,” by any method, and to “stay there” due only to a Big Water in the required place.

UPDATE 8 – BASE RETURN LENIENCY

A Robot entering Base will be considered “completely in Base” as soon as it matches the 2nd picture in Rule D07 even if there are portions of the Robot or something it has transported partially past the west or south border walls. This leniency does not apply for Launches.

UPDATE 7 – CLOUD DIRECTION AND DAMAGE

DIRECTION - Don’t be confused by the presence of yellow on both sides of the Cloud Model. The curvy cloud-like feature along with the lightning face east, as described and shown in the Field Setup





Guide. If you have somehow come across a picture actually showing the Model backwards, see Rule GP5 #4, Bullet 1.

DAMAGE – Be careful your Robot doesn't break the lightning off the Cloud Model. Even though that feature is a decoration, Rule R17 still applies.

UPDATE 6 – REMOTE STORAGE

Team members away from the table may hold Equipment after the referee has seen all of it in one place, but Models must stay in view of the referee.

21 October 2017

UPDATE 5 – PUMP DUAL LOCK

If you press your Pump Model against the wall but some of the Dual Lock is still visible (higher than the wall), re-apply the Dual Lock lower as needed until it's no longer visible. Unlike with other Models, the precise Dual Lock pattern for this Model is not critical. Just be sure some pairs are low, and some pairs are as high as possible without being visible.

UPDATE 4 – RULE D07, 6th PICTURE

In Rule D07, ignore the 6th picture and its caption.

UPDATE 3 – OPTIONAL LOOP OVERHANG

The Optional Loop sometimes tilts out of the airspace above Pipe scoring area. This has no effect on the scoring.

UPDATE 2 – WATER TREATMENT AXLE MAINTENANCE

After following the Field Setup page (not the video) accurately, you may notice that the axle leading from the Toilet doesn't exactly trace perfectly over its mark on the mat... THIS IS OKAY. At a tournament, the Toilet will be built and placed as shown, so that's the placement you should practice with. If your properly built Water Treatment Model doesn't activate while the yellow lever is held down, the problem is friction in the treatment Model. Make sure no beam is being pinched between a gear and a brown axle-joiner, nor pinched between two gears. Spread such elements from each other just a tiny bit, to ensure free-play. Also make sure all pins are fully "clicked" into their holes, for alignment.

UPDATE 1 – Leniency (REVISED)

If you Interrupt the Robot while it's Transporting something that came from Base during the most recent Launch, you may keep that thing.

