

IREC 2025 January Town Hall

January 9th, 2025

Imminent DTEG Changes

The following changes are being made to the DTEG. The **new** DTEG language that will be used is as follows:

Amending 6.2.1:

6.2.1 Any hardware drifting outside the safe recovery area or onto properties with restricted access will either be abandoned or recovered at the team's own expense.

Amending 9.2:

9.2 Payload Recovery Systems

9.2.1 Payloads shall implement recovery systems that comply with all the requirements outlined in Sections 6.1 through 6.19. Mentions of "rocket" shall be understood to be the payload.

Section 6.1.3 does not apply to payloads.

Removing 9.3:

Section 9.3

(Removing all of 9.3; redundant coverage in **Amending 9.2**)

Amending 9.4.1:

9.4.1 (will now be 9.3.1)

Payload energetics shall be limited to the payload recovery systems (9.2) . All other forms and uses of pyrotechnics and other energetics are not permitted.

Adding 9.1.5:

9.1.5 Rockets with deployed payloads shall contain no more than a single (1) independently recoverable body.

Town Hall Questions Answered Live:

Question: Are payloads allowed to be deployed at Apogee?

Answer: We have never, at least to my knowledge, restricted the ejection of a payload at Apogee. The requirements are that it does not contain any energetics and that the payload being ejected has to contain a GPS tracker.

Payloads deployed at apogee must implement recovery systems per the imminent DTEG changes listed at the start of this document (9.1, 9.2, 9.4.1).

Question: Does ESRA believe they can protect LGBTQ+ students from legal and social discrimination given the openly hostile legislative environment in Utah and Texas, and why?

Answer: ESRA is committed to hosting a safe and welcoming competition for all communities this year, regardless of the launch site. We are monitoring legislation closely and working with community members, mentors, and allies to address concerns. If you have specific suggestions or actions we can take, we encourage you to reach out.

Question: What weather support exists as far as winds aloft, cloud ceiling, etc., for each site?

Answer: Surface winds will certainly be monitored, with weather stations available at each pad location. However, there isn't any special provision for systems like LIDAR. Local weather data will be the primary source for this information.

Question: Will the 45K dual-stage category still happen with the 50K waiver at Utah?

Answer: Yes, we plan for it to continue. For commercial motors, the altitude goal remains. For experimental motors, it depends on characterization and other evaluations.

Question: Outside of expanding the competition categories and increasing the waiver, what are the other rationales for switching sites?

Answer: Reasons include larger convention centers for improved participant experience, better STEM outreach opportunities, and creating new challenges for teams. The current categories haven't changed much since 2006, and moving sites allows for growth and innovation.

Question: For pad operations, I've heard that an L3 certified person can only take two students who are L1 certified. Is this correct?

Answer: No. A Level 3 flyer can bring up to five student team members to the pad. Students don't need to be certified but must be Tripoli members for insurance purposes.

Question: Can we give assurances that the competition date won't change?

Answer: Unless there's something we can't anticipate, you can count on the dates being the ones that have been published. Final confirmation will be made by the end of the month.

Question: If an international team in the future wants to attempt a high-altitude demonstration with a motor larger than O class, is that allowed?

Answer: Larger than O motor is a Class 3 project. We wish to support Class 3 projects in the future. No launch site under consideration will support Class 3 projects in 2025. We do not see an export control reason why Class 3 projects would have special difficulty.

Question: Can you elaborate on demonstration flights? Are these technological demos consisting of teams who aren't part of the competition, and is it also open to individuals?

Answer: Demonstration flights are non-competing opportunities for advanced teams to take on new challenges. They are team-based and not open to individuals. These teams go through the same safety reviews as competing teams.

Question: Will the launch site setup be the same as last year, no matter the location, with ESRA providing each team a tent?

Answer: Although supply availability may impact this, the intention is to provide tents for shade and preparation, similar to last year.

Question: Does either the Texas or Utah site have more or less chance of clouds or other inclement weather than the others?

Answer: Weather conditions are expected to be similar, with better conditions in the morning and winds picking up in the afternoon. Las Cruces tends to have slightly higher winds historically, but weather is always unpredictable.

Question: Is it allowed to include small quantities of human tissue cell cultures contained within a small compact device in the payload, provided the device is sealed?

Answer: It depends on what the tissue is. For example, skin cells might be acceptable, but

CDC-controlled or contagious materials will not. More details should be provided on HeroX for review.

Question: How far is the Utah site from housing?

Answer: One potential Utah site is about 30 minutes away, and the other is about an hour from housing in Cedar City. Midland, Texas, has closer housing options within the city.

Question: Will the weather at Midland or Cedar City allow for later launches in the day? Would ESRA shift the gate opening time to address sleep deprivation?

Answer: Both sites have weather patterns where morning conditions are typically better, but we are looking into addressing issues with sleep deprivation and early wake-ups for teams.

Question: With the desire for a greater waiver and a 50K waiver applied for in Utah, is there potential for a higher waiver in the future?

Answer: Yes, higher waivers can be applied for after demonstrating compliance with current waivers and FAA regulations.

Question: Why was the name changed from Intercollegiate to International Rocket Engineering Competition?

Answer: The name change reflects the significant international participation, which is nearly 50% of teams. It highlights the global aspect of the competition.

Question: Will there be a method for international teams to obtain black powder for recovery operations through ESRA?

Answer: Yes, black powder will be available through on-site vendors, as it has been in previous years.

Question: Will there be security personnel to secure the Texas or Utah sites at night? Will team costs increase to cover these services?

Answer: Yes, security will be provided at night. Team costs are not expected to increase, as ESRA already covers these services at the Spaceport.

Question: Why isn't there an award for third place?

Answer: Originally, there were third-place awards, but as new categories and technical awards were added, the ceremony became too lengthy. The focus is now on first and second place and spreading recognition across more categories.

Question: For international students applying for a visa, what location should be listed?

Answer: Some teams have listed all three potential cities (Las Cruces, Cedar City, Midland) and are explaining that the final location will be confirmed by the end of January.

Please note, ESRA is not providing formal guidance on visa applications.

Question: Are teams allowed to put cameras on the pad and recover them after flight?

Answer: Yes, teams are encouraged to use cameras.

Question: What improvements are being made to rocket quarantine and logistics?

Answer: Processes are being restructured to improve queuing, communication, and team experience at the site. A survey will be sent out to collect feedback for further improvement.

Question: Will there be step ladders available at the launch site?

Answer: Yes, ladders ranging from 6 to 10 feet will be provided. Teams needing specialized equipment should bring their own.

Question: Will nitrous oxide and other gases be available at the launch site?

Answer: Yes, these materials will be available through on-site vendors.

Question: Can teams bring and use Starlink for the internet at the site?

Answer: Yes, teams may bring Starlink, but ESRA will not provide Starlink internet. Teams must ensure their equipment does not interfere with others.

Question: Why is there a restriction on transmitters of more than 200 milliwatts for SRAD avionics?

Answer: ESRA has set this power level to manage interference and noise amongst all competitors. We are optimistic that an effective selection of antennas can allow for sufficient link

budgets at this power level. If this is a major concern, please reach out to launchsafety@esrarocket.org

Question: What are the closest support stores to each site, e.g., fuel, food, medical support?

Answer: Both Cedar City and Midland have all the same types of stores as Las Cruces, including hardware stores, grocery stores, restaurants, and medical facilities. Cedar City is a university town, while Midland is more industrial but equally well-equipped.

Question: Once the final location is chosen, is Spaceport going to reach out to the hotels, restaurants, etc., in the area to let them know there will be a lot of people arriving around a certain date, or should teams reach out to those places themselves?

Answer: ESRA will facilitate this process. Both potential locations have active chambers of commerce and visitor bureaus, which will be engaged to ensure local businesses and accommodations are prepared for the influx of attendees.

Question: Will the Utah or Texas sites allow camping or overnight stays?

Answer: For the Utah site on BLM (Bureau of Land Management) land, this will need to be discussed with BLM representatives. The Texas site will also be considered, but no commitments have been made yet.

Question: Should teams expect to have any change in the remaining fees once a location has been chosen?

Answer: No, there will be no changes to the remaining fees based on the site selection.

Question: Given the preemptive costs such as rooming, rentals, motors, and other travel preparations, the ITAR regulations would drastically affect the participation of international teams. If these were put in place, would the payments made to ESRA for the competition be fully refunded?

Answer: ITAR regulations are not anticipated to affect this year's competition. However, if such a situation arises, ESRA will review the circumstances and act accordingly to ensure fairness.

Question: In the event that a rocket is on the pad and weather violates launch commit criteria, would a team be able to go to the pad to disarm electronics? Not sure if this is what you mean

by "rocket quarantine."

Answer: Yes. If there is inclement weather, teams will be allowed to go to the pad to disarm or stand down their rockets as needed.

Question: Since most waivers are sunrise to sunset, what times do we expect operations to stop and end? Also, what will the solar azimuth be?

Answer: Operations will take advantage of the waiver's sunrise-to-sunset timeframe, weather permitting. Exact solar azimuths will be provided with GPS coordinates once the site is finalized.

Question: As an international student that does not require a visa application (30 days stay), do I still need to apply for a visa?

Answer: ESRA is not the legal authority on visa matters. Students are advised to check U.S. Department of State requirements for their specific country. Many countries do not require a visa for short stays, but teams should verify this independently.

Question: Any issues with GPS connectivity at the sites?

Answer: GPS connectivity is expected to be good at both sites, with no interference like the jamming experienced near White Sands. The open terrain at both locations should provide strong signal access.

Question: Can teams incorporate energetics into payloads intended to be deployed at Apogee and independently recovered?

Answer: Payload recovery systems are now subject to the change outlined at the beginning of this document and repeated below.

Amending 9.2:

9.2 Payload Recovery Systems

9.2.1 Payloads shall implement recovery systems that comply with all the requirements outlined in Sections 6.1 through 6.19. Mentions of "rocket" shall be understood to be the payload. Section 6.1.3 does not apply to payloads.

And payload energetics are subject to:

Amending 9.4.1:

9.4.1 (will now be 9.3.1)

Payload energetics shall be limited to the payload recovery systems (9.2) . All other forms and uses of pyrotechnics and other energetics are not permitted.

Energetics are permissible in the payload if all mentioned requirements are satisfied

Question: What are the elevations above sea level of the Texas and Utah sites?

Answer: Launch site coordinates can be found here for the Utah and Midland sites:

https://www.google.com/maps/d/u/2/edit?mid=1fs8dIMQfITR_0VUuMPfQYrHeUMBsAAM&usp=sharing

Questions Answered In Chat:

Question: Is there a location selected yet for IREC 2025?

Answer: Not yet

Question: Will this presentation be posted on the IREC website somewhere?

Answer: Yes, recorded and put on YouTube. Any rules questions will be transcribed and put on HeroX.

The recording can be found here: [▶ January IREC 2025 Town Hall](#)

Question: Are you able to confirm whether the dates will remain 6/9-6/14 or is there a possibility of a date change depending on the site selected?

Answer: We are committed to the date and do not anticipate any changes at this time.

Question: How would the weather at the time of competition vary from Spaceport America?

Answer: The Texas site climate would be very similar to New Mexico, but in the Utah site, the winds are low, and the temperature is in the 80s.

Question: What are the weather characteristics in each of the locations, e.g., winds, lightning, and probability of rain?

Answer: The Texas site climate would be very similar to New Mexico, but in the Utah site, the winds are low, and the temperature is in the 80s.

Question: How does the town in Utah compare to Las Cruces? For housing purposes.

Answer: Both locations have a large amount of AirBnBs and hotels due to their other yearly activities. Traffic is low in both locations in the summer, so there should be plenty of availability. In the future, Utah may also have dorms available for teams (not this year due to prior arrangements).

Question: What would be the nearest major airport to the Utah site?

Answer: Las Vegas is the closest large airport. And it is a BEAUTIFUL drive. Very scenic mountain highways.

Question: Are there any updates regarding ITAR regulations on international students purchasing, transporting, or interacting with amateur high-power rocket systems?

Answer: This will be addressed at the end of the presentation. See presentation recording for additional information.

Question: Will the site owners (other than Spaceport) allow the creation of trails/roads for pad access and recoveries?

Answer: For Utah - Waiting on BLM response.
For Midland - There are existing roads we can utilize. Privately owned, so we will work with the landowner to create/improve roads.

Question: How far of a drive would the Texas site be from housing?

Answer: This is dependent on your team's housing selection but the site is about 2 hours away from Midland.

Question: Has the payload mass requirement for the Payload SDL challenge also been changed to 4.4 lbs?

Answer: Yes, the payload minimum mass requirement applies to all payloads.

Question: Is there a difference between previous year's square corners for CubeSats and this year's rules?

Answer: No, the dimensions are still the same from last year in Table 1 on page 14 of the Rules. Just more of a clarification.

Question: Does "square corners" mean we cannot chamfer the corners of the payload?

Answer: No, they cannot.

Question: If our team has been designing for a 2U CubeSat as recognized in past Rules & Requirements, can we continue to maintain our adherence to the CubeSat challenge?

Answer: Is the 2U a functional payload? The 2U dimensions did not change from Table 1 on page 14 of the Rules from last year, just that it must be square.

Question: Just to clarify, chamfers on the corners of the payload are no longer allowed?

Answer: This is correct.

Question: Will there be coordinated radio frequencies for teams that communicate with HAM radios?

Answer: Yes, all onsite radio frequencies will be coordinated in advance.

Question: Is there a site ESRA is leaning towards at the moment?

Answer: We cannot currently commit to a site as a favorite due to the limitations we have in working with the government to secure proper waivers at this time. Just know that we will be making a decision by the end of the month, either one of the new locations or going back to Spaceport America, which is still available to us the week of competition.

Question: When can we expect a response from the ITAR regulators regarding the 5lb motor limit? And doesn't it being in the USML notes already mean that foreign students aren't allowed to purchase them without a license even within the US?

Answer: We do not foresee any changes before the event and expect the event to continue as it has in prior years. We will update if new regulations force changes.

Question: Which of the launch sites do you currently estimate as the most likely, and when do you foresee us being able to book flight tickets and accommodations without incurring higher costs due to late arrangements?

Answer: We cannot currently commit to a site as a favorite due to the limitations we have in working with the government to secure proper waivers at this time. Just know that we will be making a decision by the end of the month, either one of the new locations or going back to Spaceport America, which is still available to us the week of competition.

Question: You mentioned that regarding ITAR, no effect as we speak. Could this change by June, and international teams not be allowed to manipulate and ultimately not launch in June?

Answer: We do not foresee any significant changes before the event.

Question: Are COTS functional payloads allowed, or are payloads supposed to be fully SRAD? Example of COTS payload would be some sort of camera system.

Answer: COTS payloads are allowed. What is described would be a functional payload.

Question: What do housing accommodations look like for each of the locations?

Answer: Similar to Las Cruces, a variety of hotel rooms and Airbnb-style accommodations are available. We are working with the hosts at each site and have ensured that there will be sufficient housing during the event. In all site locations, there are also neighboring towns and cities that have additional capacity.

Question: When can we expect a final decision about the site?

Answer: ESRA is committed to having a site decision by the end of January.

Question: Does ESRA monitor upper-level winds to remain under the 20 mph wind constraint for HPR per Tripoli rules for the competition?

Answer: Yes, ESRA thoroughly researches and performs simulations to ensure launchability and safety. The winds at all site options in June look very promising.

Question: Do either of the sites have issues with unfriendly neighbors that may cause issues with recovery?

Answer: The recovery area is being explicitly assessed for each site. Any restrictions in recovery area will be communicated to teams and accounted for in launch operations.

Question: Just to clarify, both functional and non-functional payloads are required to use the CubeSat format? Which would effectively disallow 4"-diameter rockets?

Answer: No, it's just for the payload bonus. If it's non-functional, it must be a 3U CubeSat.

Question: May we ask for the reasoning? Chamfers make handling a little bit safer because there won't be sharp corners.

Answer: Teams were abusing what they called minor chamfering and square.

Question: Please give coordinates of the Texas actual launch site location.

Answer: We will share site specifics at a later time. If you have other questions to resolve your team's logistics, we will assist in resolving those details.

Question: What is the medical support at each site?

Answer: We are in close communication with government officials in both states, and we have been assured that both sites would have the necessary support for emergencies.

Question: What are the plans to help with the launch queue congestion that became a problem last year?

Answer: First off, we are aware of last year's issues with queue management and communication. ESRA plans to restructure the organization of launch queues drastically. Details will depend on the site chosen. An anonymous survey will be sent out soon to gather feedback on any issues from last year.

Question: If the number of people is a limiting factor, will there be a cap on the number of people a team can bring to the competition?

Answer: There is currently no cap on the number of individuals a team can bring to the competition.

Question: How do you see improvements in signals/communication throughout the competition, including speaker/launch notices as well as call times?

Answer: We understand last year's signals and communications were not great. This year, we are dedicated to fixing those issues. Feedback will be gathered via an anonymous survey, and plans will be dependent on the chosen site.

Question: If my team plans on running a live video stream from the rocket, how should we coordinate that with ESRA to have them integrate it into their live stream?

Answer: There will be questions about the live rocket video challenge in progress report 3 to help ESRA prepare. The technical interface is described on the challenge webpage. More detailed questions may be posted on HeroX.

Question: Couple of questions from an international team:

- Is N2O provided on-site, or do we need to source a supplier and bring it to the site?
- Are there any rules for the storage and transport of N2O to and from the site?
- What documentation do we need to provide for the tanks if we provide them?
- Will there be a shaded area near the launch site for the ground support equipment?

Answer: We are working with local suppliers. The Hybrid teams will be able to order nitrous through an ESRA account and have the bottles delivered to the site selected. Updates will be provided to Hybrid team captains.

Question: If the launch site cannot support demo flights or 45k flights, will those teams be allowed to switch into the 30k category?

Answer: If this is the case, we will support teams to change categories.

Question: As far as hotels, which site would be more suitable to host?

Answer: All sites (Texas, Utah, NM) have sufficient housing (hotels, Airbnb, etc.) available during our competition. There are also a variety of towns between Midland (city) and the TX launch site for additional housing. For Utah, there are other larger cities/towns nearby depending on where students prefer to stay.

Question: Is it possible to use Pirana line cutters as a dual deployment recovery system for a payload despite the no energetics rule?

Answer: Payload recovery systems are subject to the change outlined at the beginning of this document and repeated below.

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And payload energetics are subject to:

Amending 9.4.1:

9.4.1 (will now be 9.3.1)

Payload energetics shall be limited to the payload recovery systems (9.2) . All other forms and uses of pyrotechnics and other energetics are not permitted.

As a result of the change, the line cutters for recovery systems are permissible as long as all other recovery requirements are satisfied.

Question: If payloads aren't allowed energetics, does that mean that deployed payloads don't need to use dual deployment, even if deployed at apogee?

Answer:

Payload recovery systems are subject to the change outlined at the beginning of this documented and repeated below.

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Question: As an international competitor, can you talk about the sizes of the towns/cities in comparison to Las Cruces? Normally we were staying in El Paso as it was a bit bigger of a city and had amenities the week prior to the competition.

Answer: Cedar City, Utah, has a population of ~40k, with nearby St. George at 100k+. Midland, TX, and the surrounding area have around 200k population. Las Cruces is about 100k, with El Paso being even larger. All site options have sufficient support, housing, facilities, etc., to accommodate the competition and visitors.

Question: If we were to develop a biology-related payload that is time-sensitive due to temperature conditions, would ESRA allow for priority launch consideration?

Answer: ESRA has plans to change queue management drastically this year. Watch for announcements about the queue arrangement once a site is chosen. For time-sensitive experiments, feel free to email registration@esrocket.org to discuss your specific needs.

Question: Do all sites have suitable dorms to host?

Answer: All sites have many Airbnbs and hotels available. In the future, the Utah location may provide dorms; however, this year, they are already booked.

Question: If Cedar City is chosen, would ESRA be able to partner with Aerotech for a factory tour?

Answer: Aerotech has indicated support for museum tours, motor-building workshops, and certain shipping/receiving activities. Factory tours have not been discussed and are unlikely to be permitted.

Question: What date will the launch site be chosen?

Answer: ESRA is committed to finalizing the site by the end of January.

Question: Would you take feedback from student teams regarding which site is selected? From my Canadian team's perspective, going to Utah as opposed to Texas or New Mexico would save us two whole days of driving one-way. Utah would be more central to everyone. 🚀

Answer: We are considering student travel times when selecting a site. However, this year we are limited by how quickly the government responds to waiver requests. In the future, we will have more flexibility to incorporate student feedback.

Question: Is there a plan to expand the number of sponsors and potential outreach options for networking? Or can we expect the same number as last year?

Answer: ESRA is always looking to expand sponsorship opportunities to provide more networking and collaboration opportunities. While we can't confirm the number of sponsors yet, it's expected to be similar or larger than prior years.

Question: I came late. Is Las Cruces still a contender to host?

Answer: Yes, Las Cruces is still a contender, and we have confirmed its availability during the week of June 9th for launch and convention center.

Question: Are deployed payloads permitted to fly energetics?

Answer: Deployed payloads are subject to the Imminent DTEG

Question: Apologies if I missed it, what is the status of the ITAR regulations and their likelihood to affect the event?

Answer: This was addressed in the presentation. There is no update, and the event is proceeding as usual. Any relevant changes will be communicated as they occur.

Question: Is there any update regarding international students being able to use or buy the motors?

Answer: There is no update, and we do not foresee updates before the event. Any changes will be communicated if and when they occur.

Question: Do the potential sites have better cell reception?

Answer: Based on initial site visits, there is some level of cell coverage at all sites. However, it's unclear how coverage will handle 2,000 people.

Question: Would the launch sites allow flying of drones for taking footage of our launches?

Answer: Student media UAS flights depend on FAA waiver specifics. This is allowed at Spaceport America, but we are uncertain about the new potential sites.

Question: It's the first time my team buys a COTS motor class M. How much lead time should we allow for ordering the rocket, and what is the approximate delay?

Answer: Motors historically have limited availability and long lead times. Order as soon as possible, ideally by the end of January, allowing at least three months lead time.

Question: Is available cell coverage one of the factors for choosing a launch site?

Answer: Yes, this is an important factor, and we understand its significance for teams and the livestream team.

Question: Given our payload draws a lot of current (non-deployable), would we be allowed to arm it remotely a few minutes before launch?

Answer: No, this would not be possible unless it is non-flight-critical and can be done from the flight line (challenging due to heavy radio traffic). Systems must maintain a multi-hour pad hold.

Question: Are we allowed to put cameras out on the pad and recover them after flight?

Answer: You can bring cameras and set them up. The pad volunteers will return all cameras to lost and found after salvos.

Question: Why aren't the payload CubeSats allowed to be chamfered?

Answer: Teams have abused this allowance in the past.

Note: Deburring for safe handling is acceptable.

Question: Will there ever be a liquid engine hotfire category?

Answer: The intent is to bring this back again. If any team has specific interest, they should email ESRA to show demand for this category. The important requirement for this potential category is the team would be required to be self-insured. Tripoli insurance does not cover liquids.