City of Tucson Planning and Development Services
Data Center UDC Technical Advisory Committee - Meeting #4
March 9,2026 | 4-6pm| PDSD Office, 4ᵗʰ Floor

~DRAFT Meeting Summary~

This document includes a summary of the meeting discussion. Throughout Planning and Development Services (PDSD) staff responses to TAC questions are in sub-bullets and *italics.*

Participants – see end

Overview of Proposed Large-Scale Data Center Standards
PDSD shared a presentation outlining the proposed standards which were shared with the public in the recent round of community meetings. Summary of feedback received and PDSD proposed changes follow in subsequent sessions.

Overview of Community Meetings and Feedback Received
- Four community meetings were held since the last TAC meeting - two in-person, and two virtual. Each had between 45-80 participants.
- The in-person sessions were a hybrid open house with presentation. The virtual meetings had presentation and discussion in breakout rooms. Surveys were included in both: online and hardcopy.
- PDSD has received over 550 unique comments. This doesn't yet include the chat comments from the virtual meetings, which will be added. Everything will be posted on the website soon. They have also developed, and will continue to update, the FAQ document.
- The main comment heard was outright opposition to data centers. It's difficult to have a conversation about regulation when this is the primary sentiment.
- Much of the additional concerns focused on water scarcity, impacts on utility bills, existential concerns about AI/technology/privacy, noise, air pollution, equity and accountability.

Reflection from TAC members who attended meetings:
- Not sure it was clear to people that this process is not the place to disallow data centers. That is not the task of this committee. This needs to be made very clear upfront to Mayor and Council when sharing back.
- People seemed to think that zoning could do more than it can (e.g. define energy mix). Not sure how to communicate this better – people don't understand what zoning can and can't do.
- A question around light pollution was raised – while we have glare requirements, it would be good to address light pollution as well.
  - *There is a reference to existing lighting standards, but the outdoor lighting code could also be referenced specifically.*
- Seems like many people just want the City to say no to data centers. Maybe we could outline what would happen if we do nothing and make no changes to the current situation? What would be the impacts? Does it make it easier to build data centers?
  - *Data centers are currently easier to build than they would be under the proposed standards, as there are essentially no guidance or standards now. The team tried to show this in the meetings, but perhaps it needs to be made clearer. It may be helpful to highlight*

> *that without any changes, people will only be notified of proposed data centers within 400 feet, and neighborhood associations within one mile.*
> - *There are a number of concerns with prohibiting data centers outright – right now we don't prohibit anything in the zoning code. Even if we did this, it could probably still be written into a zoning code. We may need to be clearer about this.*

- PDSD did a good job of outlining the process, but it still may not be clear to the public that this process does not equal an automatic approval of a data center. We need to emphasize the role of public review and that this is not an attempt to streamline the data center review process.
- The two things that the public are most concerned with (water, energy) are the two we can do the least about in this process. Noise, however, we can address. We need to have a better understanding of how the emergency equipment (generators, fly wheels, etc.) will operate in the real world.

Potential changes to proposed standards for Data Centers UDC Amendment
PDSD reviewed the proposed changes currently being considered based on community feedback. TAC members shared their thoughts on these, as well as their own feedback on the proposed standards.

Large-Scale Data Center Definition
Current proposal: 50,000 sq ft. (gross floor area)
Feedback: There was some input that the size threshold should be lowered.

- Probably basing it on footprint alone is not sensible. Maybe it should be based on energy and water impacts (even though we can't regulate these directly). A large data center requires a lot of energy and water.
  - *This has been considered. The biggest challenge is regulating this. A proposal could come in under a certain level but then ramp up their energy use later. How would we account for this?*
- How does 50,000 sq. ft. compare to what we consider a large warehouse?
  - *This would be a moderate warehouse. The Amazon building off of Kolb is about ten times this size.*
  - *The goal is to try and find a proxy for energy to make it something we can regulate. The industry uses energy use or acres of land size (which also doesn't make a lot of sense here).*
- This could perhaps be addressed as an "and/or" with the definition being triggered by the lesser of the two.
- There's no harm in dropping the square footage a bit, perhaps to a current data center size. Also recommend getting rid of the "contiguous" component of the definition.
- Many of these centers tend to have pretty big conference rooms, so we wouldn't want to make the threshold too small.
- Larger businesses/organizations have large server rooms (e.g. U of A). If there is a server room in an office building that is 51,000 sq. ft does this mean it is a data center?
  - *We could add language about the principal use of the space.*
- This is just the definition, not the regulation. Why can't we include energy consumption?
  - *The definition dictates what qualifies for the regulations, so we do need to be careful. There may be a way to work in the and/or approach to get at energy consumption.*
- This industry is looking at racks that are getting bigger and bigger. It would be advisable to use the "and/or" approach so that power consumption could be a factor.

Enhanced public notice
Current proposal: Increase notice area to ½ mile and all Neighborhood Associations within 2 miles
Feedback: the notice boundary isn't big enough; renters should be noticed in addition to property owners.

- The noticing distance makes sense. There should be a general public notice as well.
- Neighborhood Association mailings go to all addresses, regardless of whether it is a renter or owner. Why can't we do this approach?
- All residents should be noticed; the City should figure out how to get the addresses.
    - *This requirement to notice owners is reflective of the fact that it is a potential land use change to a site. Part of the issue with using addresses is that the accessor data is not great for multi-family buildings. There doesn't seem to be a good way to get all the accurate addresses.*
- Is there a public website/repository of all applications received, and if not, can we develop one?
    - *In the past there was a system that sent out a notice when an application that is part of a discretionary process was received. There is a development activity map with active permits and processes. There are ways to make sure that the information is available.*
- During the community meetings I heard a lot about environmental racism related to where the I-2 zones are located. This is somewhat of a chicken and egg issue. One way to address this could be to remove I-2 but still include the review process.
    - *Most of the I-2 is not near residential. Someone could always re-zone their I-2 property to a PAD or PCD. A better way to address this could be to increase the setback to ¼ mile. We need to look at how this works when we setback from a residential zone in the county.*
- Can we simply carve out the residential areas of I-2 zones?
    - *For the most part I-2 doesn't have residential (it's not allowed). The zoning was determined in the 1940's, but there are a couple areas within the county that have developed as residential since that time.*

Setbacks
Current proposal: Setback 200' to commercial areas and 400' to residential areas.
Feedback: the setbacks need to be increased. PDSD is considering ¼ mile setback from residential and 600' from commercial.

- Increased setbacks make sense. If that takes care of the I-2 zone issue, that's good.
- This is a large setback.
    - *Guidance from Loudon County, Virginia is that is dealing with data centers, is that 500-1,000 ft at a minimum is needed. This may overshoot that a little, but that might be good. It does help with noise issues, and some heat issues. A professor working on this type of heat tells us that 400-500' is where the heat starts to dissipate.*

Noise
Current proposal: a number of measures, including decibel limits at property level, baseline studies and sound walls.
Feedback: concerns about noise impacts, including low frequency noise

- We haven't defined quantitatively what the decibel limits should be; this should be included. In the community meetings people also talked about duration and spatial attenuation. We should add volume, frequency, duration and attenuation into the baseline study.

- - *There are some existing standards in the noise ordinance; we need to see if this includes duration and spatial attenuation.*
- Low frequency noise is hard to mitigate because it travels a long way. How can we deal with this?
  - *The additional setbacks are an attempt to address this, as well as the noise study. We may need to include frequency specifically in this. There are also other mitigation measures such as berms.*
  - Note that berms are not effective for low frequency noise, as it travels straight through them.
- When wind turbines first got going, a big issue with neighborhoods was the hum, in addition to the strobe effect. The hum could be heard for miles. We should learn more about the potential for this, so that it's not an unintended consequence.
  - *Were there things that that industry did to try to mitigate this*? (Jason M offered to share some research on this).

Backup Power / Generator Use

Current proposal: A number of measures, including generator use only during emergencies and maintenance; battery backup used first, non-emergency maintenance limited to weekdays 9am-5pm.

Feedback: What constitutes an emergency? Concerns about air pollution and noise. TAC Members asked if battery backups could be used for community benefit?

- The RICE generators at the Sundt generating station may be our most similar example. What are the requirements for those back-up generators?
  - *There are not specific regulations for these back-up generators - this would be part of the City noise ordinance, or air quality regulation through Pima County. We are considering more stringent requirements here because of the scale. There are restrictions for back-up generators used in cell towers, but that scale is much smaller. We've seen this is similar to what has been written into codes elsewhere.*
  - The member from TEP didn't think there were operational restrictions on the RICE units outside of air permits. They are designed to run and operate as needed. This would be a different application – the backup generators would be used when there is a grid issue.
- Someone in the community meeting thought that the 9-5 windows isn't sufficient for maintenance.
- For TEP, maintenance would mean we take the generator offline. The restriction to business hours makes a lot of sense, but we don't know how frequently they are likely to be doing this. Would we want to see them having this more scheduled? How do you do it when there are 100 generators?
- Would they not need to tell TEP when they plan to do the maintenance?
  - The member from TEP shared that that would certainly be preferred.
- The number of batteries these centers plan to have onsite is enormous. They are also talking about other backup (flywheels, ultra capacitors). The load fluctuations inside these facilities is on a scale we have not seen before in the energy system. The backup systems will be massive and varied, and they may have equipment we haven't discussed.
- In the industry, batteries are used as bump to get us to the generators, batteries are not a multi-hour approach. Battery Energy Storage Systems (BESS) are starting to become popular for load shifting during peak summer hours. That is still being adopted in the industry. For a flywheel, this would be about two minutes.

- At the risk of going against some of the public feedback, if there is a lot of capacity, that is where community benefit would come into play. We could load shed the data center. If a data center had an ability to ramp up backup generator, or other resources, for the period of time of a grid emergency, this would be beneficial to the grid and to the community.
- Being able to run the generators during peak hours will make it less costly for residents. But these are diesel generators, so it's bad for emissions and noise. The definition of emergency could include a way to identify when TEP anticipates having capacity issues.
- When there is a short outage on grid, having them be able to subsist an hour will be important for noise and carbon emissions. We should push for two hours of battery. We could also say "low noise, carbon free" power so it doesn't have to be batteries if there is another solution.
- Upsizing the batteries could help TEP as well.
- One facility discussed in a recent related meeting was planning to have 1000 MW of batteries backing up 1000 MW of generation.
- The way we define "emergency" is important. NERC (North American Electric Reliability Corp) has a definition we could align with.

Energy Generation
Should we include potential clean energy requirements through offsets, or Development Agreements?

- The proposed energy use mix is a ton of work, although it is a sign of the commitment to improve.
- We should push the limits of what we're allowed to do with this. This wouldn't be onsite; they would have to invest in it offsite.
  - *It's unclear how much we can do through zoning and/or a development agreement. How do we ensure we align the development agreement with community benefits and needs?*
- There isn't anything about community benefit agreements in the proposed regulations, will that be added?
  - *It's not appropriate for the zoning code, but it would be an accompanying resource moving forward.*
- Would this be aligned with the Climate Action Plan, Plan Tucson, etc. Note that the ACC has changed their direction.
  - *The intent is that it would align with all the existing policy guidance. We want creative solutions (example of a data center in Nevada utilizing geothermal from Utah). There is quite a bit of money to do these things, how do we take advantage of this with the proposal?*
- It's difficult to envision solar panels getting them enough power. It could be tough to meet these requirements on a near-term basis. This might be a longer-term strategy.

Water quality regulation
How we should include thermal and chemical impacts on water quality. Who regulates this What else should be included?
- Thermal is likely not a concern, as we're not discharging into the ocean. The chemical impacts did come up with Project Blue (in that case it is county sewage treatment). We should include PDEQ standards and what the county can accept in wastewater treatment.
- Has PDEQ been involved in this conversation, and can we see their comments?
  - *They have been involved, and their comments were mostly specific to what they regulate. See past TAC meeting notes for details.*

- o PDEQ (Scott DiBiase) – We did share comments early on. In terms of air quality permits and generators, there were some considerations about the timing of backup maintenance during peak ozone season. As for the scale – we haven't gone this far in a relationship with any data centers, so we don't know the likely scale of any potential backup generators. In terms of water quality regulations – PDEQ's role is pretty limited. We have regulations for public water systems – this is tied into Pima County Wastewater.
- The foam used in fire extinguishers includes PFASs. We need a plan for what happens if there is a fire – where would the chemical flow, and how do we keep it from getting into waterways?
  - o Another TAC member noted that banning PFAS from fire-fighting foam is currently being debated in the state legislature.
- There may also be PFAS coating their cooling pipes. PDEQ should be aware of this, and there are standards.
- Can we require closed-loop cooling and air-cooled condensers?
  - o *What happens if there is another technology that comes out that is even better? How do we say this is what we want now, but still allow for better technology in the future?*
  - o The EPA used to use the term "best available control technology," or something similar.
- We should prohibit *open* loop cooling.
- In terms of water quality, even with closed loop you eventually have to discharge some of the liquid, so there is contaminated water there.

Additional considerations and recommendations

PDSD asked what else the TAC thinks may be missing. These comments have been integrated into the relevant topic above, with those unrelated to the above topics included here.

- Public review process: Suggest two or more neighborhood meetings, not only one. It would also be helpful to break up the Mayor and Council meetings so that the approval can't happen in the first meeting, to give time if people are just learning about this? Discussion/review in one meeting and then decision in a subsequent next meeting.
- We should have a requirement to create community benefit plans. Or maybe we can only suggest this?
  - o *So far, the guidance is that this can only be suggested.*
- Landscaping – require native plants and disallow the use of any well/utility water for landscaping (all water used for landscaping should be caught onsite). Choose plants that have passive cooling to address heat islands.
- Total water use should be disclosed, along with energy usage.
- Water use should not just be onsite, but consider scope two (indirect water use).
- Compliance – the applicant should be responsible for continuous environmental monitoring on their boundaries (ambient temp, air quality, etc.). This would provide a lot of information about when they are using their backup generators. Is this type of data something that the city has experience collecting and using? Should it be posted publicly to allow for citizen scientists to get involved?
- Compliance reporting – they should self-report, and if they are not in compliance, they should explain why. We could develop a list of data they have to supply – water use, batter operation, etc. If the City doesn't have a standard practice, instead of making this unique to data centers, it could be suggested to Mayor and Council that we need to find a way to do this type of compliance reporting and monitoring.
  - o *We could include an element of public posting of data.*

- - PDEQ - there are compliance reporting requirements in regards to air quality. If people are not abiding by their permit, there are enforcement measures that are followed.
- In my neighborhood we have seen issues with getting code violations enforced. How would that work here?
  - *This is usually complaint driven and done through code enforcement. The water component is different here, however, because they will report to Tucson Water through the Large Quantity Water Users ordinance. For zoning violations - without appropriate reporting, this could be very challenging. The challenge for compliance reporting is that this is really not done with any other use. More recently there has been some reporting and monitoring of rainwater harvesting.*

Next steps
- The online survey will be open through March.
- Mayor and Council would now like to have a study session (likely April 7) for PDSD to brief them on the work of the TAC, community meetings, and feedback receive. They may direct PDSD to host more meetings, or make changes.

Participants

Technical Advisory Committee Participants
* virtual participation

Name	Area of Expertise	Organization/Affiliation
Lisa Shipek*	Water / environmental	Watershed Management Group
Ed Hendel *	Water/land use	Citizen's Water Advisory Committee
Chris Lindsey	Power systems and renewable energy	Tucson Electric Power
Chris Dougherty*	Data center	Ark Data Center
Shawn Blubaum*	Infrastructure and construction	Sundt
Jason Makansi*	Land use regulations	Planning Commission liaison
Ryan Gruver*	Data center operations	Banner Health - IT Director
Darin Gregg*	Large scale data user	USAF Intelligence
Adria Brooks	Power systems and renewable energy	Grid Strategies, Dir. of Transmission Planning
Dan Stormont	Environmental	Commission on Climate, Energy & Sustainability
Joe Fico*	Internet Service Provider	Login LLC and COT Contractor

Staff Technical Support (City of Tucson unless otherwise noted)

Name	Position/Role	Area of Expertise
Anita McNamara*	Pima County Development Services Dept.	Land use
Scott DiBiase*	Pima County Dept. of Environmental Quality	Air quality
Brad Borman	City Attorney's Office	Legal
Kristin McRay*	Ward 1	Elected officials
Stacy Balstad*	Ward 2	Elected officials
Teresa Olson*	Ward 4	Elected officials
Manisha Bewtra*	Ward 5	Elected officials
Rae Winch	Ward 6	Elected officials
Eryck Garcia*	Mayor's Office	Elected officials

Planning and Development Services Team

Name	Position/Role	Area of Expertise
Daniel Bursuck	Planning and Development Services	Planning Administrator
Nicholas Martell	Planning and Development Services	Section Manager
Carver Struve	Planning and Development Services	Principal Planner, and Primary POC
Cesar Acosta	Planning and Development Services	Principal Planner
Ian Wan	Planning and Development Services	Lead Planner
Ina Ronquillo	Planning and Development Services	Public Information Officer

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