



Renewables for Artists Team*

Mentor Handbook by Doug Hanson

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First, Review the Project Handbook

To reduce duplication, the information provided in the [Project Handbook](#) is generally not repeated here.

Who is the RAT?

RAT stands for the Renewables for Projects Team. It is a group of passionate volunteers who seek to reduce Burning Man's harmful air pollution, noise, odor, and greenhouse gas emissions through activities such as education, symposia, and the Targeted Guidance Mentoring Program. RAT operates year-round.

What is a RAT mentor, and why do they need a handbook?

Each year, RAT solicits proposals for projects that wish to power their installations in Black Rock City with renewable energy rather than fossil fuels. After a selection process, the RAT team members choose several projects they want to mentor in the successful development of their renewable-powered project at the Burning Man event. While each relationship may be unique, some core building blocks and activities have proven successful. This handbook guides those core building blocks, activities, and team expectations. This success aims to achieve the project's team members' and technical fulfillment, alongside environmental responsibility.

All participants are volunteers and should participate in a way consistent with their desire for fun. Notably, all mentors represent RAT and serve as its ambassadors. As such, mentors are expected to engage in positive, professional, and respectful ways to dignify themselves and the RAT team.

What is a RAT Co-mentor?

Mentoring is a tremendous and rewarding opportunity. A Co-mentor role can allow team members to experience the process and rewards without being responsible for the lead. Co-mentors can also bring valuable non-technical skills to the activities. When conflicts arise, co-mentors can assume the primary mentor role and take on other duties critical to the project's success. Co-mentors should represent RAT in the same manner as described above for the primary Mentor. Co-mentors will coordinate with their mentors to define mutually effective and rewarding roles.

Safety First

The RAT's Technical Advisors mentor and assist projects in the design, installation, operation, and maintenance of safe power systems at Black Rock City.

- Black Rock City is located in Pershing County, and the county adopts the 2017 edition of the National Fire Protection Association's [National Electrical Code](#). The code is highly technical and intended for use by electrical system professionals and safety inspectors.
- Black Rock City is a temporary installation, and electrical power generation and distribution are similar to those found at construction sites. The National Safety Council provides guidance on maintaining safe electrical installations, specifically for [Temporary Electrical Wiring for Construction Sites](#).
- The United States Department of Labor's Occupational Safety and Health Administration provides this fact sheet on [Grounding Requirements for Portable Generators](#).
- Here is a helpful article about [Festival Power - Is there Documentable Code?](#)

The Four Stages from Design to Implementation

Stage 1 - Analysis and Design

- Step 1 - The mentor assists the project in completing an electrical load analysis for the system or installation to determine the desired system capacity.
- Step 2 - The mentor assists the project in designing a renewable power system that will provide the electricity needed to energize the installation over the required periods and is suitable for use in harsh environments, such as the Black Rock Desert.

Stage 2 - Finance

- Step 3 - The project's budget includes the costs of purchasing, renting, leasing, or borrowing system components, as well as transportation, storage, security, and insurance coverage, based on the system's design and logistical requirements.

Stage 3 - Construction and Testing

Step 4 - The project system is built off-site.

- Step 5 - The mentor assists the project in testing the system to ensure it can provide the necessary electricity to energize the installation over the required periods.

Stage 4 - Logistics

- Step 6 - Solar panels are bulky and susceptible to damage from rough handling and vibration. Batteries are heavy. The system's components must be transported, installed, operated, maintained, disassembled, redeployed, stored, or returned to vendors or other sources for reuse. Additionally, vandalism and theft are recurring issues at Burning Man, and we must secure the non-panel and wind generator components in sturdy cabinets or structures with locks to prevent these incidents.

Project Selection

All RAT mentors are invited to review the project submissions. While complex selection criteria have not been specifically defined, RAT generally looks for projects that have reasonably determined their scope. They should know which electrically powered items should be incorporated. Experience with electrical, wind, or solar systems is a plus. Previous on-playa art experience is a plus. The project's power consumption can be anything. However, larger projects may be quickly referred to generator power or to a few larger power solutions that may be available on a loan basis from the Burning Man Project or elsewhere.

Once the candidate projects have been identified, each mentor should choose as many projects as they can complete. The mentor's reasons for wanting a particular project can be individual. RAT initially attempts to limit the load to ensure that mentors can give each project adequate attention and prevent them from becoming burned out. RAT is aware that mentoring must fit within the mentor's default world. Typically, some projects will not move forward for various reasons. In that case, the mentor can replace that one from our waiting list.

Mentor-Projects Introduction

After the assignment, each mentor should attempt to contact their project as soon as possible. Time flies incredibly fast as these projects move toward August. Project team members may not always be the best program managers, and the mentor will need to keep the renewable portion of the project moving forward by identifying next steps and deliverables. While the mentor may need to nudge and encourage early work, they are not the project manager. Be careful not to take a specific position on the project's team. Mentors are consultants, and any involvement beyond that is entirely at the mentor's discretion.

Script For Initial Contact with Projects

Hi. This is _____. I'm a Technical Advisor with the Renewables for Artists Team. I wanted to get the ball rolling for the 202_ season. We're making these initial contacts to introduce ourselves and gather some information about your project.

1. For Artists: Are you expecting Honoraria funding? Typically, Honoraria notices are sent out around March 12, so we ramp up our projects at that point. If you do not receive the grant money, will you still proceed with the project? Scale it down?
2. I'm assuming you are familiar with what RAT does and doesn't do. Any questions?
3. Have you given much thought to lighting, sound, effects, other power draws, and the power they require? Any rough calculations?
4. We have several Technical Advisors who can work with you. This is an initial contact to initiate the process and make the introduction, but we can begin working on the power requirements sooner rather than later, to ensure nothing falls through the cracks.
5. Depending on our capacity to assist projects, we'll determine who we can truly help and who genuinely needs our assistance, and we'll inform everyone accordingly. However, we still want to remain a resource for you and your project.

Status

Helping with projects is extremely rewarding and brings our mentors back year after year. The continued growth and success of our projects and RAT depend on consistently delivering these successes. To that end, RAT will impose a limited set of status-reporting responsibilities on the mentors. This will involve reporting on the progress made toward the milestones. RAT uses the Targeted Guidance Mentoring Program Workbook to track project status. Mentors will be responsible for updating their status accordingly. Mentors may occasionally struggle to maintain their calls with their projects or encounter other issues. We would like to be informed about this and have it noted in the status report. The intent is not to look over shoulders but to be aware of an opportunity to help.

On Playa

Several RATs show up on the playa during build week. We will have RATs volunteering for morning and afternoon watch duty shifts, allowing us to visit our projects and ensure everything goes according to plan. Yes, some on-playa issues arise, and we are radio-connected to try our best to resolve any problems. Keep in mind that RATs are not a part of the build team. Once on-playa, all RATs support all our projects. RAT also has connections with the ARTerY and Art Support Services and can be reached through them.

***Disclaimer:**

1. The Renewables for Artists Team (RAT) are not licensed electricians. The information provided herein is educational and not professional advice. Recipients should consult licensed experts.

2. The RAT is not a paid consultant or contractor. Our assistance and guidance are provided on a best-effort basis. We do not warrant any analysis, designs, construction materials, logistics, or funding of projects. The RAT is not liable for accidental injury, loss of life, damage, or loss to equipment or installations connected with projects.

References

[RAT Education Page](#)

- Camp Support
- Solar Power 101 - Online Burning Man Hive Course
- How To Do An Electrical Load Analysis - Online Burning Man Hive Course
- How To Do An Electrical Energy Inventory For Your Camp By Bruce Cooper
- Solar Powered System Estimator User's Guide by Doug Hanson
- Solar Powered System Estimator by Doug Hanson
- RAT Project Handbook By Doug Hanson, Updated by Scott Williams
- RAT Mentor Handbook By Doug Hanson, Updated by Scott Williams
- RoboTracker by Bob Wolff
- Burning Fuels Carbon Dioxide Emissions Calculator by Scott Williams