

CASE STUDY

Johns Hopkins

Location: Atacama Desert,
Northern Chile

Challenge: Provide continuous
power to equipment researching
The Big Bang Theory

Solution: 2 Qty: JD200-01



Johns Hopkins University, the world's leading research university, is peering into the origins of the universe with their latest research project. Founded in 1876, Johns Hopkins continues to focus on the encouragement of research and the advancement of individual scholars.

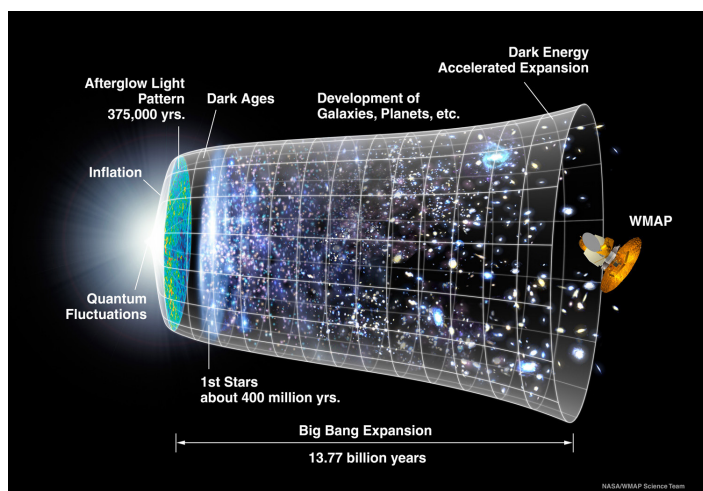


In the popular imagination, the Big Bang Theory describes an event at the beginning of the universe (sometimes literally imagined as the “bang” of an explosion) from which the universe is born. In physics, the Big Bang Theory describes not the beginning of the universe (much less a “bang”) but rather the evolution of the universe.

During the first half of the twentieth century, Edwin Hubble and other scientists demonstrated that the universe is expanding. According to the Big Bang Theory, a given volume in the universe is literally growing in size. The distances between objects in the universe that are not bound to each other grow with time.

The faculty members and colleagues at the university have made Johns Hopkins the nation's leader in federal research and development funding every year since 1979. Their latest project using the largest and most effective instrument to date, a two-story-tall microwave telescope will allow scientists to take observations of a faint ancient electromagnetic energy that pervades the sky, holding clues about how the universe began.

“This is a really exciting time for us” said Charles L. Bennett, Alumni Centennial Professor of Physics and Astronomy and former NASA scientist. “Exciting yes, but certainly challenging conditions,” said John Karakla, research and project team member. “The research site is at an elevation of 17,000 feet in the Atacama Desert in Northern Chile near the Andes Mountains. My concern with this project from the start was not only logistical, but how we were going to power our equipment and facilities at that elevation. After extensive conversations with a number of generator set manufacturers we decided to partner with Blue Star Power Systems, Inc. and its distributor American Generators.



CASE STUDY

BLUE STAR Power Systems Inc.

We based that decision on Blue Star Power Systems, Inc.'s willingness to provide us a power system built exactly how we needed it and American Generators ability to help package that system. We were given multiple engine manufacture options to choose from and were able to decide the best fit for us".

"One of the big advantages of being a Blue Star Power Systems, Inc. distributor is the ability to offer our customers multiple selections of engines. It is yet another example of why Blue Star Power Systems, Inc. excels at customized solutions," said Doug Pletcher, President of American Generators. Located in Waterford, Michigan, American Generators prides itself on the ability custom build generator set packages. "This is exactly the type of project that is our strength and the kind of project we love to go after"

Once the project parameters were established and a site survey was conducted, we knew we needed to provide 80-90 kWe of continuous power. Because of the extreme altitude conditions which derate the power of the engine, the size of the unit needed to be more than double," continued Pletcher.



Cosmology Large Angular Scale Surveyor

Model JD200-01 (200 kWe) was selected. Each unit is powered by a John Deere 6068HFG85 rated at 315 HP which drives a Marathon 431CSL6206 alternator. The units are custom enclosed in a sea container with specially designed air flow intake and discharge due to the high altitude and extreme weather condition the units face in that particular environment. "This is a 5 year project so we wanted 2 power system sources so we could alternate usage and still have constant power between recommended maintenance" said Karakla.

"Everything designed by Blue Star Power Systems, Inc. and American Generators had to be planned out and verified that the specification would be met. We added specialty fuel pumps to pull from the existing tanks, lightning prevention fastening points, interior and exterior lighting, exterior warning functions, and customized service points on each unit within the sea containers. We will have students maintaining these units on site so ease of serviceability was super important to us. Another important feature was the Ethernet interface installed which was connected to a microwave link. "We needed to be able to monitor these generators from anyplace in the world," Karakla stated.



Karakla added "The performance of these power systems has been flawless. This has been a demanding project from the very beginning and I could not have asked for a better partnership than with American Generators and Blue Star Power Systems, Inc. Both of their willingness to change directions on the fly, answer questions in a timely fashion and most importantly produce the quality product that can be depended upon for the life of this project has made this a total success".