

The Science of a Lab Move

**Case Study of a Cross-Country
Lab Relocation**

By Brookline
Transportation, Inc.

usa
mover

Table Of Contents

Introduction	2
The science of a cross country lab relocation	3
First key to the success of this relocation—Keep your cool	7
Second key to the success of this relocation – Butterfly safety	8
Third key to the success of this relocation – Safety and compliance	8
Fourth key to the success of this relocation – Safety for lab staff	9
The relocation	9
Reviews from other BTI Lab Moves	11

Introduction

How do you move 700 butterfly specimens from one coast to another? Very carefully might be one answer. As a company that specializes in lab relocation, BTI knows that moving a lab is a science unto itself. In this case study of the relocation of Dr. Nipam Patel's butterfly collection from UC-Berkeley to Marine Biological Laboratory in Woods Hole, Massachusetts, we explain the science involved in moving a lab from one coast to the other.

The science of a cross country lab relocation

Moving a butterfly lab from UC-Berkeley to Marine Biological Laboratory in Woods Hole, Massachusetts.



For most scientists, science is not a profession but an avocation or calling. For many scientists, the study of any one species can represent a lifetime of work. Such was the case for Dr. Nipam Patel, Ph.D. of the University of California-Berkeley and now director of the Marine Biological Laboratory in Woods Hole, Massachusetts.

When Dr. Patel was hired to be the director of the Marine Biological Laboratory at the end of 2018, it meant moving more than 700 butterfly specimens from one coast to another but also some very sensitive and expensive equipment. To safely transport Dr. Patel's life's work involved another discipline, the science of lab relocation.

Many scientists might read that and take offense. Perhaps viewing a move as more of a craft than a calling. That is a fair comment. Yet relocating a lab and collection of this nature does include many different sciences—e.g. physics, chemistry, etc. It also involves a methodical and calculated approach similar to a study or experiment—with some flexibility for unforeseen variables. For example, an ideal time frame for planning a lab move is six months. Dr. Patel needed to move his lab from one coast to another in four months.

The Science of a Lab Move

The project began in July 2018 when a Request for Proposal (RFP) for moving services was sent to multiple companies by the purchasing agent tasked with vetting moving companies and selecting the firm that offered the best value and expertise. After the initial, on-site review of the lab at UC-Berkeley, the mover's version of researchers--fellow agents from a network of global companies personally selected for their business acumen--met with the lab manager, lab assistants, facilities manager and Dr. Patel.

The prep work included creating an inventory of everything that would need to be moved, with photos. An on-site survey was performed to gather the details needed to develop a plan and provide the pricing necessary to meet the technical needs as outlined in the request for proposal.

Part of that information intake involved an interview with Dr. Patel on the conditions required to safely transport the butterflies. Maintaining the temperature of refrigerated equipment being shipped in the truck would be critical, as well as packing and securing the containers holding the butterfly specimens. Said Dr. Patel:

We had to move an entire lab from one coast to the other. That included refrigerators/freezers at temperature, laboratory equipment, cabinets of delicate butterfly specimens, liquid nitrogen dewars, glassware, etc. We were extremely concerned about any rattling in the truck and the possibility of antennas and wings falling off butterfly specimens.”

— *Dr. Nipam Patel, Ph.D, Marine Biological Laboratory (MBL) Woods Hole, MA*

The next phase involved multiple steps to provide details on how the team would execute the planned move, including timelines and deliverables. The plan included a site visit to the end destination, the Marine Biological Laboratory in Woods Hole, Massachusetts. Fortunately, our Hanover, Mass.-based company had previously done moves to this location, knew the lay of the land and the facility management team. From that experience, it was determined that delivery could not be made directly to the site as the loading area could not accommodate a 53-foot air ride tractor trailer. The move would have to be from Point A to Point B to Point C, an obstacle a seasoned lab move professional with a network of resources can handle.

With the inventory and interview research complete, a reasonable and actionable project management timeline was developed to meet Dr. Patel's requirements and deliver the refrigerated equipment and specimens in seven days across the country.

The Science of a Lab Move

With the agreed upon timeline requested by Dr. Patel in place, a schedule for packing dates at UC-Berkeley was determined. On October 22, 2018, the packing of the dedicated refrigerated transport vehicle began, by far the most critical component of the move. This endeavor would require a variety of activities, including: removing the earthquake chains from the walls to move the equipment; placing monitoring sensors inside the lab's freezers for constant 24-hour monitoring of the equipment; inspection of the contents and securing the contents to mitigate any chance of damage during the 3000 mile trip; and loading the lab's freezers into a specialized equipped truck – equipped with a rail lift, dual generators one main and one redundant -in case of a failure (the truck also included multiple electrical outlet(s) whip(s) for 115 volt, 220 volt 230 volt some single phase and dual phase plugs for plugging in the freezers and refrigerators).

One special footnote regarding the refrigerated truck. It would include Liquid Nitrogen (LN₂) Dewars, which would need to be topped off during the cross country trip. The dedicated specialty truck would make direct delivery to the Marine Biological Laboratory, the refrigerated units brought in and plugged in to their power outlets in the lab.

The largest part of the relocation was the lab equipment and consumables, including a plethora of bench equipment, floor model double incubators and centrifuges, Zeiss microscopes and older model deli-case incubators. Specially designed cabinets that contained the butterflies would have the butterflies removed from the casework and packed into HD cartons, then the casework would be dismantled from the walls wrapped and inventoried. This part of the relocation would take a little more circuitous voyage.

After being brought out of UC Berkeley, the equipment was marshalled into the warehouse in California where some of the goods were consolidated, then loaded onto the special commodities fleet air ride vans to make the cross-country journey to the storage facilities in Hanover, Massachusetts. The storage facility is approximately one hour from the Woods Hole laboratory. A plan would then be required for reloading the items into smaller vehicles to transport to the Marine Biological Laboratory. This would call for making all smaller vehicles available on that particular day for the transport and delivery.

While previously never having moved butterfly specimens, our firm had conducted other sensitive types of moves. Based on those experiences, the key points to a successful mover were easy to determine.

First key to the success of this relocation—Keep your cool

The frozen samples would be shipped in a complex, double back-up system involving minus 80 c and minus 20 c, freezers--along with LNG DEWARS containing LN2. The driver and team at headquarters received computer updates via cell technology on the temperature of the truck. If the temperature dropped below a certain degree or rose above a certain degree, the driver would be notified. Arrangements were also made to top off additional LN2 along the way.

Second key to the success of this relocation – Butterfly safety

Of course, this plan, as with every type of move, is only as good as how you pack the trucks. Packing the butterfly samples would be particularly precarious, as the butterflies were contained in specific order and pinned for display. Standard off-the-shelf containers could not be used. So, a strategy was developed to pack and transport the butterflies upright to best protect them during the loading and transport process.

Third key to the success of this relocation – Safety and compliance

When you move equipment from a lab that's been exposed to any type of chemical, there are a number of regulations, state and federal, to abide by. This means you must clean and decontaminate all equipment to be moved prior to the packing and moving. For bio safety cabinets and fume hoods, a specialized mist may be required along with a wipe down to decontaminate the units.

Additionally, chemicals to be moved follow strict guidelines in how they are to be shipped. A hazmat driver can only transport hazardous materials. Containers must be packed into containers that are U.S. Department of Transportation-approved. The vehicle must be placarded to alert the public of the hazard that is being shipped in the truck and it must be on the truck and visible at all times.

Fourth key to the success of this relocation – Safety for lab staff

Obviously, safe transport of chemicals is critical not only to the lab, but to the public at large. But there are additional safety concerns in a lab move, especially as it pertains to expensive equipment. The value of Dr. Patel's equipment being moved was worth several hundred thousand dollars, probably more. So, it's quite natural that when it came time to pack (and eventually unpack), staff might want to assist. This can be a large problem. Most RFP's will request coverage for the goods being transported. It is very important to address this at the beginning and understand how the coverage will apply to the goods being shipped.

The relocation

With the blessing of Dr. Patel and lab managers at both locations, the move began on February 23. As the lead "scientist" Project Manager, yours truly oversaw the packing at UC-Berkeley. With trucks loaded and, on the road, the Project Manager went to the airport to catch a flight back to Boston.

On the cross country trip home, travel plans changed as weather disrupted the trip from San Francisco to Phoenix for the connecting flight to Boston. As luck would have it, the trip was rerouted to Seattle where a new connecting flight on Alaska Airlines was waiting. A flight attendant on the connecting flight was decorated in butterflies--butterfly apron, butterfly pins, butterfly scarf and butterfly rings. You can call it karma or perhaps a sign of a universe being in sync.

The Science of a Lab Move

Successful transportation of the lab, however, was not the end of the story. Careful and timely delivery, set up, unpacking and placement into the new lab at Marine Biological Laboratory (MBL) Woods Hole, MA was also critical. The crew orchestrated that as well.

At the end of the day, the refrigerated move was completed in five days, two before the deadline and the special commodities move in nine days. That was four days before the go-live date and under budget, which made the team in purchasing very happy.

Whether this settles the debate of whether a lab relocation is a science, or a craft honed over years of experience is another story. Like any research or experiment, however, the most important thing is the result. For that here are the words of a true scientist, Dr. Patel:

“George Rohlfing and his team were very attentive to those concerns and a pleasure to work with. We felt like we were in good hands and the successful move of our lab from coast to coast was proof-positive of that.”

— Dr. Niram Patel, Ph.D., Marine Biological Laboratory (MBL) Woods Hole, MA

Reviews from other BTI Lab Moves

“Working with George from BTI made it easy to make sure the safety plan was being followed and the team was following the recommended safety protocols. Daily check in was required and Lift plans were reviewed, and proper securement and safety plans were approved to our satisfaction. The crew was attentive and provided a safe work environment while on site.”

— Dave Becker of Merck, Danville, PA

“George and his team were amazing – went very well! Professionalism was extraordinary. I would never hesitate to recommend all of you to anyone.”

— Dr. Patrick Fuller, University of California-Davis,

“I really appreciate the services provided including the low temp lab coolers, the coordination and pick up of the dry ice pellets, foam coolers and the complete service needed for our move. I know that it was a small lab, but you treated us as if we were a large lab.”

— Dr. Chris Gregg, Gro BioSciences

About BTI

Since its founding in 1943, BTI has coordinated and executed thousands of commercial, lab and residential moves throughout the greater Boston area to Cape Cod. A Mayflower franchise, BTI has the capability to conduct international and cross country relocations. BTI's services include: Professional Packing; Special Crating; Storage, Loading & Unloading Services, Workplace services, and Automobile Moves.



Moving your lab?

Are you planning to relocate your lab within the next year?

Call BTI at 800-766-7724 or click the button below.

[Learn more](#)