**Larson Davis a Division of**

**PCB Piezotronics, Inc.**

**Provo Operations**

**1681 West 820 North**

**Provo, UT 84601**

**Disaster Recovery & Business Continuity Plan**

1. **Purpose and Scope**

The purpose of this disaster recovery/business continuity plan is to prepare Larson Davis (LD) in the event of extended service outages caused by factors beyond our control (e.g., natural disasters, man-made events). In the event of a disaster, LD will give priority to the health and welfare of its employees, will strive to restore services to the widest extent possible in a minimum time frame. The scope of this plan is limited to PCB Piezotronics, Inc.’s Provo, UT facility. The Provo site will implement preventive measures whenever possible to minimize operational disruptions and to recover as rapidly as possible when an incident occurs.

LD strives to be prepared for any disaster, including: natural disasters, fires, business/process interruption (e.g. computer system failure, equipment failure), supplier disaster (in the case of sole-source suppliers), vandalism/workplace violence/bomb threats, pandemics or flu, and utility disruptions (including loss of power or water). It is the responsibility of any employee with information about a potential disaster to immediately contact their supervisor or local Director of Operations/General Manager or one of the Executive Management Team members.

In the event of a disaster, LD’s goal is to be watchful for the safety and welfare of its employees, to prevent or limit an interruption in the supply of products to its customers and to continue to provide Total Customer Satisfaction.

1. **Plan Objectives**
   1. Provide for the safety and welfare of PCB/LD employees
   2. Serve as a guide for the Larson Davis/PCB Piezotronics recovery teams.
   3. Reference and point to the location of critical data.
   4. Provide procedures and resources needed to assist in recovery.
   5. Provide the network for developing a communication plan to our employees, customers, suppliers, and the community.
   6. Assist in avoiding confusion experienced during a crisis by documenting, testing and reviewing recovery procedures.
   7. Identify alternate sources for supplies, resources and locations.
   8. Document storage, safeguarding and retrieval procedures for vital records.
2. **Health and Safety of Employees**

**During Working Hours**

When a disaster occurs during working hours the company’s emergency evacuation procedures (PE 1016-LD) take precident as the primary course of action. The employee safety committee will take charge to assure that all employees and visitors are safe, being attended to by first responders and to see that immediate physical and emotional needs are being met. Once these needs are met and reported to the recovery team leaders attentions can be given to other aspects of the disaster recovery plan.

**Outside of Working Hours**

The recovery team will first assure that there are no employees on or in the premises that may need immediate medical or emotional attention. The recovery team will notify all employees as soon as possible of the disaster and its impact on day to day operations.

1. **Recovery Team Key Personnel**
   1. Director of Operations/General Manager of Plant—Dave Rosen: Coordinate all recovery efforts at location.
   2. Executive Management Team (EMT)—Dave Lally and Dave Hore: provide resources and directions.
   3. Management Team (MT)—Assist local management team members in areas of accountability with resources.
   4. Chief Information Officer (CIO)—Assist local team in bringing up IT functions on site or in remote locations to allow local team to be back on line in a connected basis as soon as possible.
   5. Local Management Team—Engineering Manager, Production Manager, Logistics Manager, Sales Product Manager: Assit in notification of department team members and coordinating department recovery efforts with corporate team members.
   6. Plant Safety Manager—Thomi Barker: provide for the employees immediate health and safety concerns, assess damage and provide directions for restoration of local facilities.
2. **Local Disaster Team Member Responsibilities**
   1. All of the local teammembers should keep an updated calling list of their departmental team members’ work, home, and cell phone numbers and emergency text numbers at home and at work.
   2. All team members should keep this plan for reference at home or in electronic format in case the disaster happens after normal work hours. All team members should familiarize themselves with the contents of this plan.
3. **Invoking the Plan**

This plan becomes effective when a disaster occurs. Normal problem management procedures will initiate the plan, and remain in effect until operations are resumed at the original location or a replacement location and control is returned to the appropriate functional management. There are four critical steps in the declaration of a disaster that should form the framework of each disaster declaration: alert, investigation, decision and implementation.

* 1. **Disaster declaration**
     1. The Director of Operations/General Manager of the Provo Plant, The Executive Management Team, with input from the Management Team, is responsible for declaring a disaster and activating the various recovery teams as outlined in this plan.
  2. **External communications**

**Emergency notification contacts**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** |  | **Primary Phone #** | **Email** | **Reason for Call** |
| Joe Van Slycke |  | 716-430-7146 | [jvanslyke@pcb.com](mailto:jvanslyke@pcb.com) | Corporate IT person that can assist in bringing up alternative systems |
| Dave Hore |  | 716-491-2047 | [dhore@pcb.com](mailto:dhore@pcb.com) | EMT contact for resources |

* + 1. Communicating to the community and external organizations:

PCB Piezotronics’ Vice-President of Finance and General Counsel are designated as the Corporate public relations personnel and will be the principal contacts with the media (radio, television, and print), regulatory agencies, government agencies, and other external organizations following a formal disaster declaration, as applicable. The Director of Operations/General Manager of LD may be appointed to this roll by the EMT for local communications.

* + 1. Communicating to customers:

The Vice-Presidents of Sales will develop a plan to communicate the status of LD/PCB Piezotronics’ operations to customers. Individual order status will be communicated via PCB Piezotronics’ amendment procedure, SM1015. The communication will include details of what plan is in place, when additional communication regarding orders will be communicated (set time schedule) and what PCB will do to assure that the customer receives the product ordered.

* + 1. Communicating to suppliers:

The Logistics Manager will work with the Buyer to contact suppliers to provide a status of LD’s operations and provide any instructions related to a change in LD’s receiving location and order status.

* 1. **Internal communication plan**

Employees of LD/PCB Piezotronics’ Provo, UT facility receive communications from the company regarding disasters and other emergencies through a variety of means including the following:

* + 1. PCB maintains a hotline that contains updated information regarding access to the Provo facility. Employees can call (716) 206-2626 to receive status updates.
    2. If a disaster occurs while the facility is occupied, employees will follow the emergency, evacuation and communication instructions that are outlined in LD’s Emergency Action Plan, procedure number PE1016-LD.
    3. Department heads will communicate directly with the employees in their department with instructions regarding critical business functions.
    4. Outside of normal working hour disasters will be communicated to employees through the LD emergency text notifying process. Updates and work schedules will be communicated through this same text notification process.

1. **Disaster Recovery/Business Continuity Plans for Critical Business Functions**

* 1. **Human Resources**

Human resources for the Provo facility are the direct responsibility of the Director of Operations/General Manager. He will take every measure to assure the health and welfare of all employees on site by providing first responder assistance through the safety committee and public emergency assistance as needed. The corporate Vice President of Human Resources will assist the local Director of Operations to assure that employees receive assistance as needed.

1. Resumed work schedules and locations will be communicated to the employees as the information is available. This will be accomplished by direct communication or through the Provo plant texting process. The corporate hot line may also be made available to communicate this information.
2. Employees may use the EAP (Employee Assistance Program) resources available through the PCB benefits plan.
   1. **Information Technology**

Data services for the Provo facility are controlled by the PCB Depew facility. There are redundant services and servers in that facility that can be accessed and routed to different locations to provide data functions when a disaster occurs at the Provo facility. Remote login to the data systems has been granted to key personnel through the use of VPN, VDI or Citrix and can be set up for all LD personnel to work from home or another remote site. Supervisors should coordinate with the IT department to assure that these remote login capabilities are in place for key personnel. In the event that damage occurs to the main corporate facility the Provo Data facility may be used as a backup for that facility.

* + 1. Data Backup from Network Servers

PCB Piezotronics maintains a procedure for the routine back-up of essential business data in order to provide a restore point in the event of damage, deterioration, or loss of computer-resident quality records under conditions of catastrophic computer system failure. Records are backed up from each of the major computer systems (Syteline Server(s), ADP Server, Webserver, Applications Server, Messaging Server, Database Server, et al). Data services for the Provo facility running on Provo servers can be restored and made operational in Depew or other PCB facilities in the event of damage; including loss of power, and distruction of the Provo facility.

* + 1. Power Failure Emergency Procedure

In the event of a power failure, the Information Technology department will take steps to assure continued Telecom and WAN Datacom operation when possible. The IT department will take the necessary steps to close down the Provo facility prior to temporary power sources running out. The specific steps are described in procedure number CS1003.

* + 1. Restoration of Data
       1. VMware: New VMware servers will be built on the hardware provided by vendors using the current version that was running.
       2. Syteline:
          1. Restore the SQL databases into a server \ instance with the same name as the current production servers
          2. Restore the report file server (reports.syteline.pcb.com)
          3. Restore the Syteline Utility Servers
          4. Update all DNS entries to point to the new server IP addresses in other PCB facilities.
       3. Exchange:
          1. Restore the backend exchange databases
          2. Restore the exchange front end servers
          3. Update hosted SPAM solution to direct mail to new IP address
    2. File Shares:
       1. Data needed from the G:\ and R:\ file share will be restored according to priorities set by the Chief Information Officer:
          1. Finance Data
          2. Supply Chain
          3. TCS Procedures
          4. Drafting Data
          5. Operations Data
          6. Sales Data
          7. Remainder as needed – Is this where Legal Data falls?
    3. Damage prevention from fire
       1. PCB Piezotronics Provo facility utilizes a fire suppression sprinkler system in the Data Center to limit the amount of damage to the Information Technology system due to fire. This same system exists throughout the building.
       2. The fire suppression system is audited annually by an outside test facility.
    4. Hardware and Software failure prevention
       1. PCB Piezotronics maintains redundant servers so that in the event of a hardware failure, there will be no loss of data or performance.
       2. Hardware is continuously monitored for the following:
          1. Drive Space
          2. SQL Performance
          3. Other hardware failures
       3. PCB Piezotronics utilizes VMWare to automatically transfer information from a malfunctioning server to a properly functioning server without loss of data or performance.
       4. The critical software applications are monitored for corruption continuously. If corruption is detected an error message is automatically forwarded to the Help Desk for resolution. If necessary, files can be recovered from back-up data according to the instructions documented in procedure number CS1006.
       5. PCB Piezotronics maintains a Help Desk with staff on call 24/7.
  1. **Assembly & Calibration Operations**
     1. Business recovery due to short-term disruption—less than 48 hours
        1. In the event of a short-term disruption to LD’s operations (for example a power outage, weather-related closing, etc.), the Director of Operations/General Manager will work with the Sales Management group to prioritize customer orders. The Director of Operations will authorize overtime, including weekends, and compile a plan to meet customer orders. In the event that some customer orders may have to be amended, the company will follow the customer order amendment process documented in procedure number SM1015 and notify the affected customers.
     2. Business recovery due to long-term disruption—greater than 48 hours
        1. PCB maintains other facilities in Depew, New York and Halifax, North Carolina to assemble and calibrate its products. Although these facilities do not maintain equipment to exactly duplicate the LD operations they contain much of the same equipment. These facilities also maintain certification to the ISO-9001 and ISO-17025 standards. In the event of a long-term disruption of operations in the LD, Provo facility product could be assembled and calibrated in the Depew, New York or Halifax, North Carolina facility or at an alternative local facility.
        2. The Director of Operations will coordinate the transfer of components and materials to the Depew or North Carolina facility either from inventory in Provo, or from outside suppliers in the event that the inventory located in Utah is not accessible or has been damaged.
        3. The Logistics Manager and Buyer will work with key vendors to assure that they have a Disaster Recovery and Business Continuity Plan in place for their business. This will be especially critical for sole source vendors and our contract board manufacturer, Precision Assembly.
        4. The Director of Operations will coordinate the temporary transfer of employees, if feasible, to the other facility to provide additional capacity for meeting customer orders.
        5. The Director of Operations will work with the Sales Management group to prioritize customer orders. In the event that some customer orders may have to be amended, the company will follow the customer order amendment process documented in procedure number SM1015 and notify the affected customers.
  2. **Customer Service/Sales**
     1. Restoration of phone service
        1. In the event of short-term inaccessibility to the Provo, UT facility remote phone service will be routed to the Farmington Hills, MI facility or Depew, NY facility. In the event of inaccessibility at one of these facilities, remote phone service will be established at one of PCB’s other locations. The Chief Information Officer will determine the most appropriate site to route incoming calls.
        2. In the event of long-term inaccessibility to the Provo, UT or Depew, New York facility, phone service will be established either at a separate local location, one of PCB’s remote locations or routed to the homes of the sales staff. The decision will be made by the Chief Information Officer and Vice-Presidents of Sales based on the current conditions.
     2. Restoration of business system for accessing customer records and processing customer quotes and orders
        1. In the event of short-term inaccessibility to the Depew, New York facility, remote access to computer records and systems will be established via VPN, VDI and Citrix. The Vice-Presidents of Sales and the Chief Information Officer will determine if this access will be delivered to computers at one of PCB’s remote locations or to the homes of the sales staff based on current conditions.
        2. In the event of long-term inaccessibility to the Depew, New York facility, remote access to computer records and systems will be established via VPN, VDI and Citrix. The Vice-Presidents of Sales and the Chief Information Officer will determine if this access will be delivered to computers at one of PCB’s remote locations or to the homes of the sales staff based on current conditions.
  3. **Accounting & Legal**
     1. In the event of inaccessibility to the Depew, New York facility, remote access to computer records and systems will be established via VPN, VDI and Citrix. The Chief Financial Officer and Chief Information Officer will determine if this access will be delivered to computers at one of PCB’s remote locations or to the homes of the Accounting and Legal staff based on current conditions.
  4. **Shipping/Receiving**
     1. Business recovery due to short-term disruption
        1. In the event of a short-term disruption to LD’s shipping and receiving operations (for example a power outage, weather-related closing, etc.), the Director of Operations will work with the Sales Management group to prioritize customer orders. The Director of Operations will authorize overtime, including weekends, and compile a plan to meet customer orders. In the event that some customer orders may have to be amended, the company will follow the customer order amendment process documented in procedure number SM1015 and notify the affected customers.
     2. Business recovery due to long-term disruption
        1. PCB Piezotronics maintains other facilities in the USA that assemble and calibrate its products. In the event of a long-term disruption to LD’s operations, shipping and receiving of product will be transferred temporarily to one of those facilities or to an alternative local facility.
  5. **Engineering**
     1. Business recovery due to short-term disruption
        1. In the event of a short-term disruption to LD’s engineering operations (for example a power outage, weather-related closing, etc.), the Director of Operations will work with the Engineering Manager to prioritize needs. VPN, VDI and Citrix services have been set up at home sites of some of the engineers and can be expanded to all if needed. Work from home may be authorized to allow development projects to stay on track. Customer Service and Sustaining work may also be completed from home to allow for the timely meeting of customer needs.
     2. Business recovery due to long-term disruption
        1. In the event of a long-term disruption to LD’s operations, engineering work from home or temporary facilities may be established so as to complete development projects and service customer needs.

1. **Business Recovery Due to Pandemic Flu Outbreak**
   1. In the event of a reduction in the workforce due to a pandemic flu outbreak, the Management Team will assess the impact to their respective areas and provide a plan to minimize the impact to customer orders. These plans may include overtime, the transfer of product to other PCB facilities, having employees work remotely from their home, or having components and materials normally produced at the Provo, Utah facility purchased from outside suppliers.
   2. LD will work with local health agencies in order to enact preventive measures to minimize the spread of the flu.
2. **Plan Review and Maintenance**

The plan shall be reviewed following any declared disaster. Updates and modifications to the plan will be implemented. This plan shall be reviewed on an annual basis by the Management Team as part of LD annul management review of Quality Systems. At the minimum, this review will contain a review of the following items:

* 1. A review of the emergency contact information.
  2. Verification that the fire suppression system in the data centers have been checked on a yearly cycle.
  3. A review of available technology that may better facilitate the carrying out of the plan.
  4. A review of operations for changes that can enhance the effectiveness of the plan.