TELSEC DEVICE DATA

INTRODUCTION

This section introduces the TELSEC Device Data Form. This form is designed to help compile individual device data and to aid with the organization of data that is to be input into the PressureMAP database. The TELSEC Device Data Form needs to be completed for each monitoring device within an office that utilizes a TELSEC CPAMS. This data form is used for both the TELSEC 1500 and TELSEC 2000.

When filling out the Device Data Forms, keep in mind that PressureMAP is designed like a pressurized cable system. It is based on air pipes rather than monitoring devices or cable routes. For this reason, the data entry forms should be organized by air pipe routes (rather than by specific cables or monitoring device types).

The Device Data Form simply consists of a series of data fields concerning an individual monitoring device. One set of data fields (or a single Device Data Form) will complete a single data record in the PressureMAP database. To complete the PressureMAP database, a data record will need to be filled out for every monitoring device in the pressurized cable system. A device data record is a detailed set of information describing a specific monitoring device.

When compiling device data, it is important to remember that each individual monitoring device is associated with either a single air pipe, remote dryer, or central office sector. It is very important to note that a single device cannot become associated with more than one air source, as this would misrepresent the pressurization system.

The minimum information that needs to be gathered for each monitoring device is:

- The Device Number

- The PressureMAP Device Type (from Table A1-1 in Appendix 1)

- The physical address of the device

- The PressureMAP Location Code of the device

- The Pipe or Sector of the device

- The sheath name (or number) that the device monitors (multiple sheath numbers might be needed for devices that monitor manifolds)

- The stickmap number on which the device appears

All of the above information must be entered correctly into the PressureMAP Editor for each monitoring device in the pressurized cable system. These key elements of information are fundamental to the proper functioning of the PressureMAP program.

Although there are several additional fields on the data forms, it is not mandatory that they all be filled out. However, it is recommended that all data fields be completed if the information is available. Completing as many fields as possible (and entering the data into the PressureMAP database) will allow

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PressureMAP to issue more complete reports, meaning that you will not need to look elsewhere when extra information is needed.

Device Monitoring

For TELSEC offices in a PressureMAP system, the MAP software monitors readings and generates dispatch alarms and dispatch priorities for voltage, pressure, temperature and contact state devices. Relative humidity devices can be monitored, but will not post alarms.

THE TELSEC DEVICE DATA FORM

Listed on the next several pages are descriptions of the data fields found on the TELSEC Device Data Form (shown in FIGURE 7-1). The fields are presented in the order they appear on the data form, which is also the order that the data is entered into the PressureMAP Data Entry Editor.

General Information

At the top of each form, you will see the general fields for the Office, Pipe, Date, Engineer and Page number of the form that you are filling out. Before entering any data concerning the monitoring devices, be sure to fill out this header information located at the top of each data form.

Also located at the top of the Device Data Form are the three function boxes: Add, Delete, and Change. These boxes allow the data forms to be used for several different purposes. Be sure to check the appropriate function box before completing the data form. Also, when filling out the Device Data Forms, it is a good idea to group the individual types of data entry functions together (for instance, place all "Change" data forms into one group). This will aid with the data entry process and minimize the chance for data entry errors.

TELSEC Device Data Fields

Once the header information is complete, you may begin to record the actual monitoring device data. On the next few pages, definitions are given for each data field found on the TELSEC Device Data Form. Each definition includes a description of the data field, the maximum length of each data field, the type of entry expected (numeric or alphanumeric), and any default values that PressureMAP may assign to the field.

If a default value is listed for a data field, the value that is given is simply the value that PressureMAP will assign to the field if nothing else is input into the data field. If the value that you are going to enter into the field is the same as the PressureMAP default value, then all you will need to do is press *<Return>* for that field, and PressureMAP will insert its default value.

FIGURE 7-1: TELSEC DEVICE DATA FORM

The following fields will appear on the *Primary Specific Device Information* screen of the data entry editor.

DEVICE #

This data field records the number of the monitoring device. Locate the device number on the TELSEC printout and check it against the Master Transducer Log. If the device is correctly listed on both data sources, then enter this number on the data form.

If a device is listed on the printout and not on the log, investigate why. Add the device to the Master Transducer Log if the situation warrants.

TELSEC sensors are given PressureMAP device numbers in the form U-NN, where NN is the universal input number (UIN) of 01-64.

User Defined Device Numbers

PressureMAP gives you the ability to create User Defined Device Numbers when entering your monitoring devices in the PressureMAP program. User Defined Device Numbers are created from any 11 keyboard characters, with the exception of the following:

( ) , / ^ '

If you wish to take advantage of User Defined Device Numbers, you must specifically turn this feature ON from within the Office Information Screen. For more information on this option, please refer to the description of "User Defined Device Numbers" under the Office Data Form segment in Section 2 of this manual.

ACCESS #

The **Access #** field will be displayed only if User Defined Device Numbers is turned ON. This field holds the actual access number as defined by the monitoring unit. (This is the number that would be placed in the **Device #** data field if User Defined Device Numbers were not turned on.)

TYPE

This field holds the PressureMAP two-letter Device Type. For more information on assigning PressureMAP Device Types, please refer to Appendix 1, PressureMAP Device and Transducer Types. PressureMAP uses a default Device Type of UP in this field, representing an underground pressure transducer.

PSI

This field may be displayed on the *Specific Device Info Screen* for high pressure devices, but it is not used for TELSEC pressure devices.

STD

For high priority pressure transducers ($P devices), this field contains the standard, normal PSI value of the transducer. For high priority temperature transducers ($T), the field contains the standard temperature reading of the transducer. The default value is 75.0 degrees F. The value that is placed in this field should be obtained from past history reports for the transducer.

ADDRESS

This field holds the device address location. Find the address on the Master Transducer Log and abbreviate it with 30 characters or less, as shown in the examples below:

• For pipe panels: (PIPE PANEL-A, NORTH)

• For distribution panels: (DIST. PANEL-C, SOUTH)

• For underground device locations: (MH-54, WILLIS & 5TH AVE.)

For all aerial and buried device locations, use the pole numbers and cross streets, terminal numbers, building names, or whatever else is necessary to thoroughly identify a device location.

LOCATION

Enter the device Location Code into this field. The Location Code is an alphanumeric abbreviation assigned to all devices stationed at one particular location. Each Location Code must be unique (not duplicated) within an office. Location Codes may consist of up to four alphanumeric characters. However, Location Codes are normally designated as numbers between 0 and 9999.

Note: All devices in the central office (CO) must be given a Location Code of 0 unless the distribution panel is attached to the pipe (MF).

NORM

This data field needs to be completed for all Contact Alarms. The input for this field can be up to seven characters in length and should reflect what the device reads in its normal, non-alarm state. For TELSEC system Contact Alarms, this field is initialized to an **OK** value.

CHNG

This field is used in conjunction with $P and $T devices as well as the **STD** field described above. The **CHNG** field is the amount of change in pressure or temperature that can be tolerated before the device goes into alarm. For pressure devices, the CHNG value is how many PSI can drop from the value indicated in the **STD** field before an alarm condition is acknowledged. For temperature devices, the CHNG value is how many degrees the temperature can increase or decrease before an alarm is produced.

For a pressure monitoring device, this field will default to a value of 1.5 PSI. The default value for a $T device is one third of the **STD** value (25.0).

CHG

This field appears only for single feed pressure device types GP, HP, and JP, along with the **THR** field. The **CHG** field is the amount of change that can be tolerated before the device goes into alarm. The default value for this field is 1.0 PSI.

THR

This field appears only for single feed pressure device types GP, HP, and JP, along with the **CHG** field. If the pressure drops below the threshold value (THR) at any time, a four star dispatch alarm will be issued. The default value for this field is 1.5 PSI for GP, and 4.4 PSI for HP and JP.

SHEATH(S)

This field holds the sheath number or identification of the cable being monitored. It may also be used to identify the cables being fed by an air pipe manifold or distribution panel.

The sheath assignment for a device is listed on the Master Transducer Log and stickmap. Sheath entries are limited to seven alphanumeric characters in length. As many as 15 individual sheath entries may be input into this data field.

CABLE

This field holds the primary cable number. This will be the "read" cable that contains the transducer conductor pairs. Entries are limited to seven alphanumeric characters.

PRIM PAIR

This field contains the information concerning the designation of the primary conductor pair to which the device is connected. Primary pair entries are limited to seven characters.

SEC PAIR

Record the secondary pair number in this field. This number refers to the backup conductors to the primary pair, if they exist. Like the primary pair entries, the secondary pair entry is limited to seven alphanumeric characters.

SORT KEY

This field is for user defined device sorting. Sort Key designations may hold a maximum of five alphanumeric characters. Option 10 of the Device Histories Menu uses this field to generate reports for all devices with the same Sort Key designation.

PLAT #

Fill in underground, buried, or aerial record number in this data field. Plat numbers may be up to eight alphanumeric characters in length.

STICKMAP

This field contains the stickmap number, which is the sheet number of the office stickmap on which the device appears. Stickmap entries may consist of a maximum of four alphanumeric characters.

REMARKS

This data field allows for a 70-character remark to be entered concerning the device.

The following device information fields will appear on the *Monitor Specific Device Screen* of the data entry editor. This screen is accessed from the Primary Specific Device Information Screen by: 1) using the *<PgUp>* and *<PgDn>* keys (if you are at the MAP Computer main console), or 2) by entering the keystrokes *<Ctrl><F>* (forward one screen) and *<Ctrl><R>* (back a screen).

LATITUDE

This text field has the following format: ldd+mm.mmm, with l designating which hemisphere the latitude applies to (one of the single letters: N or S); dd is an integer between 00 and 90 that indicates the degrees of latitude; and mm.mmm is an integer between 0.0 and 59.999 that designates the minutes of latitude.

When adding new devices, the latitude field is carried over to the new device, so the default value for this field will be derived from the last device added.

LONGITUDE

This text field has the following format: hfff+mm.mmm, with h designating which hemisphere the longitude applies to (one of the following single letters: E or W); fff is an integer between 000 and 180 that indicates the degrees of longitude; and mm.mmm is an integer between 0.0 and 59.999 that designates the minutes of longitude.

When adding new devices, the longitude field is carried over to the new device, so the default value for this field will be derived from the last device added.

Office and Field Locations do not necessarily apply to each device. If not, these fields should be left blank. When a device's Office Location entry is blank, the corresponding Distance field is also left blank. A device in the central office is NEVER assigned an Office 1 or Office 2 location. Devices monitoring the air pipe (such as SF, SP, PP and EP) do not require Office and Field entries, as PressureMAP reviews the entire route when these device types come into alarm.

OFC 1 LOC

This field holds the Office 1 Location Code. The Office 1 location is the code of the first device location toward the central office from the designated device location where the cable in question is either fed or monitored. This data field does not apply to devices in the central office itself or pressure devices on a pipe.

DISTANCE 1 (kft)

This column is used to record the distance, in kilofeet, from the specified device location to the OFC 1 location. A numeric entry must be made into this position. This data field does not apply to devices located in the central office or pipe pressure TDs.

OFC 2 LOC

This field holds the Office 2 Location Code. If two monitored sheaths on the office side of a device location converge into one sheath at the device location, office Location Codes are assigned to the closest device locations on each of the two sheaths. Either device location may be designated as "Office 1;" the remaining one is "Office 2." (Refer to Appendix 2 for examples of Office 2 and Field 2 assignments.) Reference the stickmap to determine if a sheath splits.

This data field does not apply to devices located in the central office or pipe pressure TDs.

DISTANCE 2 (kft)

The distance from the specified device location to the Office 2 location. Enter the distance, in kilofeet, to the Office 2 location. Entries must be numeric.

FIELD 1 LOC

This column designates the Field 1 Location Code. This column lists the Location Code of the first device location on the field side of the specified device where the cable is either fed or monitored.

Notice that a Distribution panel flow device with an assigned Location Code of "0" should have an entry in this field. Only the following types of devices are not assigned any Field Location codes: pipe pressure transducers, pipe panel flow transducers, and contact alarms.

FIELD 2 LOC

Enter the Field 2 Location Code into this field. If a sheath splits on the field side of the device location, the closest monitoring device on each of the two sheaths is assigned a field Location Code. Either device location may be designated as "Field 1"; the remaining one is "Field 2". (See Appendix 2 for a detailed look at Office and Field situations.)

INPUT TYPE

This field contains the TELSEC input type. Legal values are: TEMPF (Fahrenheit temperature), TEMPC (Centigrade temperature), RH (relative humidity), FC (foot candle), MV (milli-volt), PSI (0-100 PSI), HPSI (0-500 PSI), DIGITAL (digital input point for normally open points), INVDIG (digital input point for normally closed points), and SCALE (manually scaled). PressureMAP does not use this field; it is for record keeping purposes only.

OFFSET

This field contains the adjustment factor that the TELSEC applies to analog readings. The value entered must be a whole number in the range of –127 to 127. PressureMAP does not use this field; it is for record keeping purposes only.

ALARM TYPE

The TELSEC alarm type is entered into this field. Legal values are: ENV (environmental alarm), EQPTSA (service affecting equipment alarm), and EQPTNSA (non-service affecting equipment alarm). PressureMAP does not alarm on the input from this field; it is for record keeping purposes only.

ALARM CONDITION

This field contains the TELSEC Alarm Condition. Legal values are: CR (critical alarm), MJ (major alarm), and MN (minor alarm). PressureMAP does not use this field; it is for record keeping purposes only.

DELAY

This field contains the TELSEC alarm delay. It specifies the amount of time (0-600 seconds) the TELSEC system will wait before generating an alarm. PressureMAP does not use this field; it is for record keeping purposes only.

THINGS TO KEEP IN MIND

Keep in mind the special nature of devices in the CO when filling in the Device Data Form. Important points to remember are:

- Devices in the CO differ from field devices in that they rarely have cable and pair assignments.

- Contactors in the CO do not have sheath numbers.

- A CO device always has "0" for its location code.

- Flow devices on Pipe Alarm Panels get no field locations.

- Do not assume that a pipe located in the CO Sector is a CO route.

- Multiple pipes can travel the same route.

- Pipe pressure TDs get no Office or Field Locations.

Also, keep in mind the special nature of remote compressors. The remote compressor is an air source, and the air flow must be monitored by a flow device. In order to produce a non-zero System Quality Index for a remote compressor, both a pressure monitoring device and a flow monitoring device must be associated with the air source.