



U.S. Department
of Transportation
Federal Aviation
Administration

Advisory Circular

Subject: Service Difficulty Reporting System (Air Operator/Air Agency/General Aviation/Unmanned Aircraft Systems) **Date:** 11/1/23 **AC No:** 20-109B
Initiated by: AFS-600 **Change:**

- 1 PURPOSE OF THIS ADVISORY CIRCULAR (AC).** This AC describes methods the Administrator prescribes per Title 14 of the Code of Federal Regulations (14 CFR) part [91](#), § [91.1415](#); part [125](#), § [125.409](#); and part [135](#), § [135.415](#); and accepts per part [121](#), § [121.703](#) and part [145](#), § [145.221](#) for reporting in-service product and article failures, malfunctions, and defects. The Federal Aviation Administration (FAA) also encourages Service Difficulty Reporting by the General Aviation (GA) community. The contents of this document do not have the force and effect of law and are not meant to bind the public in any way, and the document is intended only to provide information to the public regarding existing requirements under the law or agency policies.
 - 2 AUDIENCE.** This AC solicits Service Difficulty Reporting participation from all segments of the aviation communities that operate and maintain aircraft in the U.S. National Airspace System (NAS). This AC promotes use of the Administrator’s Service Difficulty Reporting System (SDRS) database accessed at <https://sdrs.faa.gov>. The overarching purpose of Service Difficulty Reporting is to promote safe operations and improve the operational performance and reliability of products and articles produced under 14 CFR part [21](#).
 - 2.1 GA Community.** The SDRS database is available to GA owners, operators, and maintainers. GA Service Difficulty Reporting adds value and improves the overall safety of the entire NAS. This AC encourages the GA community to participate in this reporting process. Submitters may remain anonymous.
 - 2.2 Small Unmanned Aircraft System (UAS) Aircraft.** Service Difficulty Reporting does not apply to small UAS operated under 14 CFR part [107](#). However, if a small UAS operator is conducting a part 135 operation, they are required to submit a Service Difficulty Report (SDR) per § 135.415. In addition, a small UAS that operates over human beings must, per § [107.140\(b\)](#), have an Airworthiness Certificate (AWC) issued under part 21. The Production Approval Holder (PAH) of this type small UAS would benefit from SDR data and information that shows a failure, malfunction, or defect caused or could have caused an unsafe condition in the NAS.
 - 3 WHERE YOU CAN FIND THIS AC.** You can find this AC on the FAA website at https://www.faa.gov/regulations_policies/advisory_circulars and the Dynamic Regulatory System (DRS) at <https://drs.faa.gov>.
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- 4 EFFECTIVE DATE.** The effective date of this AC is November 1, 2023.
- 5 EXPLANATION OF CHANGES.** This revision emphasizes the use of the SDRS web-based database as the Administrator's prescribed and acceptable method of Service Difficulty Reporting for all operations including GA (as discussed in paragraph [1](#)). The SDRS web-based database includes UAS operator reporting guidance.
- 6 WHAT THIS AC CANCELS.** AC 20-109A, Service Difficulty Program (General Aviation), dated April 8, 1993, is canceled.
- 7 SAFETY MANAGEMENT SYSTEM (SMS).** A certificate holder (CH) under 14 CFR part [119](#) authorized to conduct operations in accordance with the requirements of part 121 must (per 14 CFR part [5](#), § [5.1](#)) have an SMS that meets part 5 requirements and is acceptable to the Administrator. Section [5.71\(a\)\(5\)](#) requires investigations of incidents and accidents.
 - 7.1 AC 120-92, Safety Management Systems for Aviation Service Providers.** AC [120-92](#) promotes the FAA view that each person who participates within the NAS, including part 145 repair stations, *should* develop, implement, and apply SMS constructs that govern their operations.
 - 7.2 FAA SMS.** FAA Order [8000.369](#), Safety Management System, requires Aviation Safety (AVS) to have an SMS, and FAA Order [8040.4](#), Safety Risk Management Policy, requires AVS to exercise Safety Risk Management (SRM) as it performs its safety duties and responsibilities.
- 8 THE FAA's SDRS DATABASE.** The FAA's SDRS database (<https://sdrs.faa.gov>) receives SDR data and information in a centralized location that PAHs, CHs, operators, maintainers, and the FAA use to improve product and article safety and reliability. Preservation of sterile SDR safety data and information in the SDRS database permits authorized persons to access and collate it, to apply SMS and SRM principles, and to act proactively to mitigate safety risks associated with product and article failures, malfunctions, or defects.
 - 8.1 Event Details.** Service difficulty events require operators and maintainers to identify and report timely, accurate, and complete data and information that §§ 91.1415(e), 121.703(e), 135.415(e), and 145.221(b) specify. In the interest of safety, part 125 CHs (as they comply with § 125.409(a)) and part 91 GA operators should submit as much information as possible (or as much as they are capable of) into the SDRS database.
 - 8.2 Benefits to Sharing Operational Safety Data and Information.** A service difficulty can occur due to a flaw within a product or article manufactured under part 21 caused by a manufacturing process or design data error. They can also occur due to deficient or misapplied maintenance/inspection programs and/or procedures used to maintain a product or article. The goal of Service Difficulty Reporting is to promote safe operations by identifying these deficiencies and acting proactively to eliminate them.

- 8.2.1** PAH Review and Investigation of Service Difficulty Reporting. Manufacturers required by part 21, § [21.3](#) do not use the SDRS database to report failures, malfunctions, and defects. Rather, AC [21-9](#), Manufacturers Reporting Failures, Malfunctions, or Defects, covers such reporting. However, per § 21.3(f), *upon request by the FAA*, the PAH must report to the FAA the results of its investigation and any action taken or proposed to correct a defect when an SDR shows that a product or article manufactured under part 21 is unsafe because of a manufacturing or design data defect. If action is required to correct the defect in an existing product or article, the holder of that production approval must send the data necessary for issuing an appropriate Airworthiness Directive (AD) to the FAA.
- 8.2.2** Continuous Airworthiness Maintenance Programs (CAMP). A person issued an FAA Operations Specification (OpSpec)/Management Specification (MSpec) D072, Aircraft Maintenance – Continuous Airworthiness Maintenance Program (CAMP) Authorization, as well as the Administrator, have the responsibility per § [91.1431](#), [121.373](#), or [135.431](#) to continuously analyze and assess the performance and effectiveness of their CAMP. Service Difficulty Reporting is often the output of these assessments and in addition, reviewing data and information within the SDRS database can help them improve their CAMP.
- 8.2.3** Repair Station Self-Evaluation. A repair station *may want* to include in its self-evaluation procedures required by § [145.211](#), a review of SDR data and information. Service Difficulty Reporting provides operational performance data and information concerning articles.
- 8.2.4** Administrator Oversight of GA Programs. Service Difficulty Reporting provides the Administrator with data and information it uses per § [91.215\(a\)](#) to determine if revisions to an approved aircraft inspection program under § [91.409\(f\)\(4\)](#) or § [91.1109](#) are necessary for the continued adequacy of the program.

9 METHODS OF SUBMITTING SDRs.

1. Preferred method: SDRS website at <https://sdrs.faa.gov>. Access to computers and the internet is now widely available to the public. Places such as libraries enable a person to use this prescribed and acceptable method. This website greatly reduces the filing burden on both the filer and the FAA. To access this site, see paragraph [11.1](#) of this AC.
2. Backup method: While not preferred, FAA Forms [8010-4](#), Malfunction or Defect Report, and [8070-1](#), Service Difficulty Report, are available for use. This type of submission should be rare (e.g., related to system outages, internet issues, or lack of computer access). These submissions can be sent by email to 9-AMC-AFS-SDR@faa.gov, transmitted by fax at 405-954-4655, or sent by U.S. mail to:

Manager, Aviation Data Systems Branch
P.O. Box 25082
Oklahoma City, OK 73125

10 SERVICE DIFFICULTY REPORTING.

- 10.1 Objective.** The objective of Service Difficulty Reporting is to collect and consolidate reported data and information into a common data bank, allowing it to be distributed amongst the aviation community, including the FAA's AVS organization. Various divisions, sections, groups, and offices within AVS collate the data and information and use it to analyze and assess operational reliability of aeronautical products and articles. AVS has the responsibility to identify and react proactively to in-service trends, reliability issues, or unsafe conditions. When analysis of data and information substantiate reliability issues or unsafe conditions, AVS can often preclude their negative effects and/or reoccurrence elsewhere by taking proactive mitigating actions.
- 10.1.1 Service Difficulty Reporting Evaluations.** Evaluating service difficulties helps AVS Aircraft Certification Service (AIR) branches and Certificate Management Sections, as well as Flight Standards (FS) Air Carrier Safety Assurance (ACSA) offices and General Aviation Safety Assurance (GASA) offices, determine what (if any) corrective action is required to remedy an unsafe condition in a product or article. In addition, reporting service difficulties provides valuable statistical data that manufacturers, air carriers, air agencies, operators, and maintainers can all use to evaluate their inspection and maintenance programs' performance and effectiveness, as well as measure how reliable a product and article is under their specific operating conditions.
- 10.1.2 Reporting Performance Issues.** Instructions for continued airworthiness that are inaccurate should be reported. Human error is not reportable. An organization's SMS or other Quality Management System/Risk Management System should discern whether to report instructions for continued airworthiness in SDRS or not. The organization has the responsibility to address their manuals when their instructions and procedures are deficient and to report the deficiency to the PAH when it is derived from a PAH instruction.
- 10.2 SDR Title and Terminology Clarifications.** Section 91.1415, applicable to part 91 subpart K (part 91K) operations, is titled "CAMP: Mechanical reliability reports." Mechanical Reliability Reports (MRR) is an older term that is synonymous with "Service Difficulty Report." The regulation in part 91K was ongoing at the time of the title change, and as a result, it still carries the old title. The SDRS website (<https://sdrs.faa.gov>) directs GA reporting to create a Malfunction or Defect (M or D) Report and fill out FAA Form 8010-4. SDR regulations in parts 121, 125, 135, and 145, and FAA Form 8070-1 are all titled "Service Difficulty Reports." The stated objective above is the same regardless of the title and terminology. The data and information in MRRs, M or D Reports, or, as they are commonly called, SDRs, is collected and stored in the SDRS database by the Aviation Data Systems Branch in Oklahoma City, Oklahoma.
- 10.3 Benefits of Reporting.** Such reporting serves the public in several ways. First, the statistical record of all such reports provides the FAA with the knowledge of the effectiveness of current airworthiness (AW) certification and maintenance program standards. Second, the record of such reports provides knowledge of the effectiveness of the CH's maintenance programs. Third, the knowledge of these reports prompts other

CHs to take appropriate action, as necessary, to prevent similar mechanical or structural problems in their aircraft fleet. Fourth, the record promotes the open sharing of safety data and information with the FAA and allows it and all users and maintainers of a product or article to trend the frequency of mechanical or structural problems. This trending can provide knowledge that gives warning of present or imminent unsafe operating conditions.

Note: The number of SDRs submitted is not an indicator of the mechanical reliability or fitness of an aircraft fleet. Inquiries that make this connection are inappropriate; rather, it indicates participation and a positive safety culture. AVS internal divisions and offices have the primary responsibility for planning, programming evaluations, and assessing the performance of manufacturers and operators. Entities should direct questions regarding fleet performance to the appropriate AVS oversight office.

10.4 Reporting Sources.

10.4.1 CH and Program Manager Reporting. The primary sources of SDRs are parts 121, 125, 135, and 145 CHs and part 91K program managers.

10.4.2 FS Office Reporting. FAA aviation safety inspectors may also report service difficulty data and information when an FS office receives a report per § [121.374\(h\)](#) or part 135 appendix [G](#), § G135.2.8(h), conducts routine surveillance, or investigates an accident, incident, occurrence, or event.

10.4.3 GA Community and Foreign Reporting Sources. Voluntary reports from the GA community and foreign regulatory authorities enable the FAA to become more proactive in mitigating safety risks from all segments of the aviation community.

10.4.4 UAS Part 135 Service Difficulty Reporting. UAS operators subject to § 135.415 should access the Service Difficulty Reporting site at <https://sdrs.faa.gov> and select UAS Part 135 Holders (see Figure [4](#)).

11 AVIATION DATA SYSTEMS BRANCH. Regulatory Support Division, Aviation Data Systems Branch is responsible for:

- The management of the SDRS database,
- The SDRS website, and
- The instructions and information posted on this website.

11.1 View and Access to the SDRS Website.

11.1.1 View and Access to SDRS. To gain access to the SDRS website, or if you have questions concerning this website, contact the Aviation Data Systems Branch by email at 9-AMC-SDR-ProgMgr@faa.gov, or by U.S. mail at this address:

Manager, Aviation Data Systems Branch
P.O. Box 25082
Oklahoma City, OK 73125

11.1.2 Instruction Aids. SDRS resource links, field instructions, single/batch instructions, look-up tables, and an SDRS quick reference guide can be found at <https://sdrs.faa.gov> (see Figures [1](#), [2](#), and [3](#) below).

12 INVESTIGATING SERVICE DIFFICULTIES. As discussed in paragraph [7](#) above, exercising SMS constructs that include safety risk analysis and assessment enable a person to determine what should (and should not) be reported. Those who are required to submit SDRs should have manual procedures that explain how the operator will exercise logical, safety-centric approach when making these decisions. The FAA's regulatory safety expectations are that SDRs reflect diligence, attention to detail, and proactive efforts by those required (or if not required, those who choose) to report them. It is the responsibility of product and article manufacturers, operators, maintainers, and the FAA to apply systematic safety risk analysis and assessment in order to make informed safety decisions and report very accurate and timely safety data and information. Once all facts are gathered and the safety risk is established, a person is able to determine if a report is required and what (if any) corrective action is necessary. Corrective action within an SDR could require coordination between manufacturers and service providers. Corrective actions should be sophisticated, well thought out, communicated to employees, and shared with their industry stakeholders as much as possible.

12.1 AVS Review and Analysis of SDR Data and Information. AVS has the responsibility and authority of the Administrator to react proactively to in-service trends, reliability issues, or unsafe conditions as it realizes them. Concerning SDRS, AVS offices review SDR data and information routinely and apply Order 8040.4 to determine what action (if any) AVS needs to take to correct an unsafe condition.

12.1.1 AIR SDR Reviews. Within AIR, AIR branches and Certificate Management Sections review SDRs per § 21.3(f) to identify potential unsafe conditions.

12.1.2 FS Review. Reviews by FS Safety Assurance (SA) AW principal inspectors (PI) may lead to actions that are necessary to address immediate safety concerns. However, before acting, or shortly thereafter, the AW PI should discuss the matter and confirm the appropriateness of their actions with the following AVS organizations, as necessary:

- FS Aircraft Evaluation Division (AED).
- AIR branches and Certificate Management Sections.

12.2 Timely Reporting. It is important, for those who are required, to report the occurrence or detection of failures, malfunctions, or defects within the time required by the regulations, even if all the information is not available at the time the initial report is due. When additional information, including information from the manufacturer or other agency, becomes available, submit a supplement to the first report and reference the date and place of submission of the first report as soon as possible.

12.2.1 When an aircraft is out-of-service for more than 72 hours due to scheduled maintenance, preventive maintenance, or alteration activity, and discoveries of service difficulty issues are identified, the reporting time requirement (within 96 hours) begins after the work on the aircraft is approved for return to service (refer to InFO [12005](#), Title 14 of the Code of Federal Regulations (14 CFR) Part 121, § 121.703 “Service Difficulty Reports”).

13 REPORTING INSTRUCTIONS.

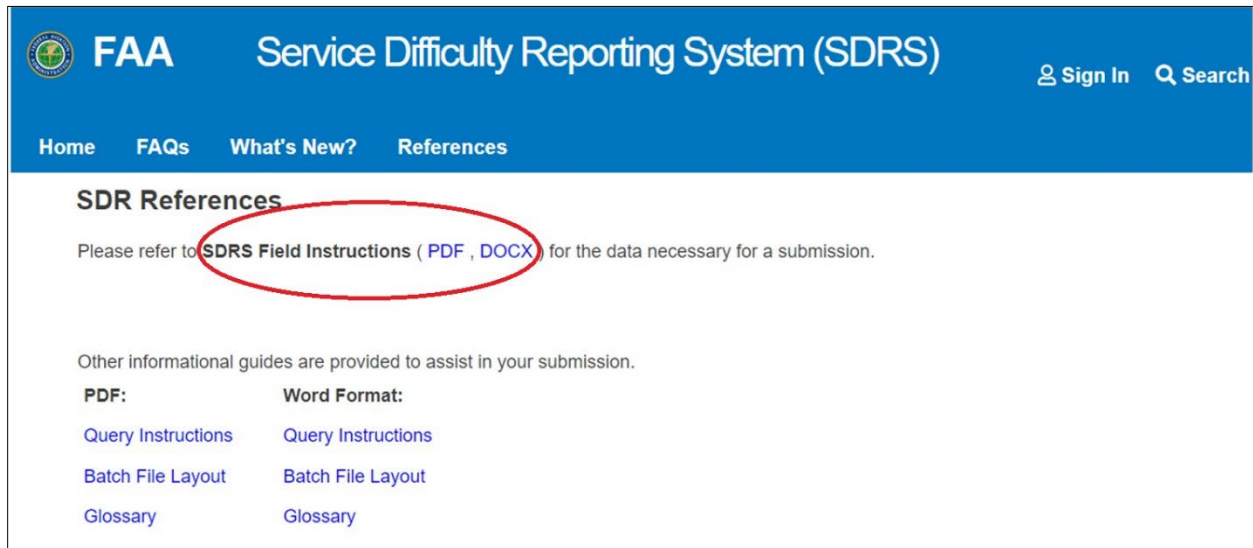
13.1 Required and Shared Information. Not all data fields in the SDRS or on an SDR form are required by the regulations. The goal is to acquire as much data and detailed information as possible so that the FAA, manufacturers, and safety conscious operators can use it to assess fully the risks and conditions that may affect public safety.

13.2 SDRS Reporting Instructions. When you access the SDRS site at <https://sdrs.faa.gov>, you will find on the right-hand side a list of “Resources.” Selecting the “View reference documents” link will take you to “SDRS Field Instructions” that will lead you through the data necessary for submission. (See Figures 1 and [2](#) below.)

Figure 1. SDRS Resource Links



Figure 2. SDRS Field Instructions



13.2.1 Single and Batch Submission Instructions. Instructions for “Single” and “Batch” submissions can be accessed by clicking on the appropriate resource link from the SDRS site. (See Figure 3 below.)

Figure 3. Single and Batch Submission Instructions



13.3 UAS Part 135 Service Difficulty Reporting Instructions. UAS operators subject to § 135.415 should access the SDRS site at <https://sdrs.faa.gov> and select UAS Part 135 Holders ([faa.gov](https://sdrs.faa.gov)) (see Figure 4 below).

Figure 4. UAS – Part 135 Holders (faa.gov)

What is SDRS?

- Service Difficulty Program
- Service Difficulty Report
- Malfunction or Defect Report
- Form Completion
- Reportable Occurrences
- Improve Aviation Safety

General Aviation Reporting (Voluntary Submissions)

Malfunction or Defect reports
You can electronically submit Malfunction or Defect reports.

[Create a Malfunction or Defect Report](#)

Search All Processed Reports (Malfunction or Defect and Service Difficulty Reports)
You have the ability to search and review all processed reports.

[Search All Processed Reports](#)

Resources

- [AC 20-109A](#)
- [View reference documents](#)
- [Instructions for Single Submission](#)
- [Instructions for Batch Submission](#)
- [Look-up Tables](#)
- [Provide Feedback to AFS-620](#)
- [SDRS Quick Reference Guide](#)

Other Links

- [Dynamic Regulatory System \(DRS\)](#)
- [FAA Aircraft Information](#)
- [FAA Forms](#)

Air Carriers, Air Operators, and Repair Stations Reporting (Regulatory Submissions)

CFR Part 121, 125, 135, 91K, and 145 Only!

[Need an Account? Click Here.](#)

Login to Access:

- Create Service Difficulty Report
- Batch SDR Upload
- Recent Submission List

[UAS- Part 135 Holders \(faa.gov\)](#)

Reference Regulatory Requirements

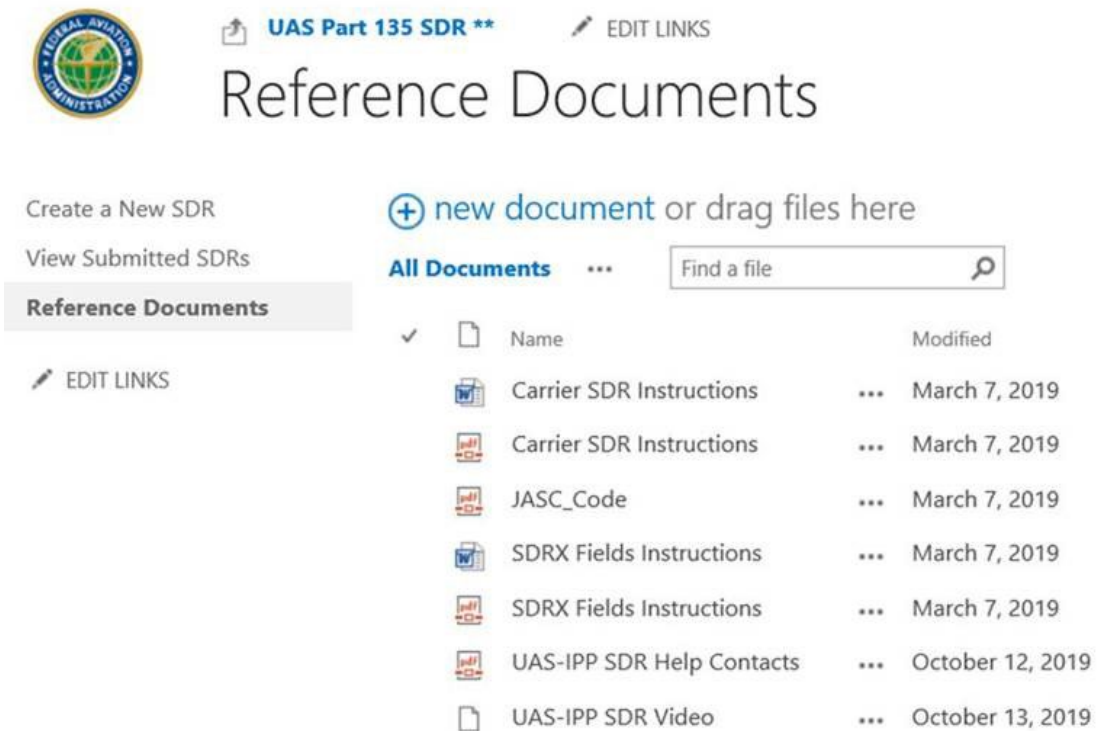
- 91.1415
- 121.703
- 125.409
- 135.415
- 145.221

13.3.1 On the left-hand side of the UAS home page (titled UAS Part 135 SDR), you will see a link titled “Reference Documents” (see Figure 5). Click on it, and it will lead you to reporting instructions (see Figure 6 below).

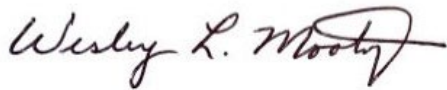
Figure 5. UAS Part 135 SDR Home Page



Figure 6. Reporting Instructions



- 13.4 FAA Forms 8010-4 and 8070-1.** The FAA forms are available for use if you do not have a computer or access to the internet. If you do not have access to a computer and the internet, you will need to visit your responsible Flight Standards office to acquire these forms and answer questions. Instructions are included with FAA Form 8070-1. Your responsible Flight Standards office has access to the SDRS site at <https://sdrs.faa.gov>. Using this site is the preferred method of reporting. The FS office can assist you with reporting using this preferred method, or can assist you with FAA Forms 8010-4 and 8070-1.
- 14 AC FEEDBACK FORM.** For your convenience, the AC Feedback Form is the last page of this AC. Note any deficiencies found, clarifications needed, or suggested improvements regarding the contents of this AC on the Feedback Form.



Wesley L. Mooty
Acting Deputy Executive Director, Flight Standards Service

Advisory Circular Feedback Form

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by contacting the Flight Standards Directives Management Officer at 9-AWA-AFB-120-Directives@faa.gov.

Subject: AC 20-109B, Service Difficulty Reporting System (Air Operator/Air Agency/General Aviation/Unmanned Aircraft Systems)

Date: _____

Please check all appropriate line items:

An error (procedural or typographical) has been noted in paragraph _____
on page _____.

Recommend paragraph _____ on page _____ be changed as follows:

In a future change to this AC, please cover the following subject:
(Briefly describe what you want added.)

Other comments:

I would like to discuss the above. Please contact me.

Submitted by: _____

Date: _____