

UNCLASSIFIED



# LASER CLEARINGHOUSE REPORTS HANDBOOK

**Change 4**  
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Prepared by:  
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## Summary of Changes

<b>Version</b>	<b>Summary of Changes</b>
Initial approval	Initial release, October 14, 2004; signed by Captain Patrick M. Mills, U.S. Navy, Director of Operations for Cheyenne Mountain Operations Center, U.S. Strategic Command.
Revision A	Revision A1, dated March 15, 2005 was signed by Captain Patrick M. Mills, U.S. Navy, Director of Operations for Cheyenne Mountain Operations Center, U.S. Strategic Command. Contains editorial and administrative updates.
Change 1	Change 1 dated August 26, 2006 was signed by MAJ Patrick Suggs, U.S. Army. The primary change was to delete the electronic message formats covered in the recently published LCH Spiral 3 Deconfliction System Interface Control Document. In addition, administrative updates were made to reflect the evolving organizational titles in USSTRATCOM and the Cheyenne Mountain Directorate plus a new unclassified email address for the Space Control Center.
Change 2	Updated the Inadvertent Illumination Notification and Report to add clarification. In addition, administrative updates were made to reflect the organizational title of the Joint Space Operations Center (replacing the Space Control Center).
Change 3	Revised the title of the Notification of Laser Firing Outside Authorized P/A Parameters and Report of Laser Firing Outside Authorized P/A Parameters. Added in Laser Activity Summary Report information.
Change 4	Replaced J95 with USV and replaced JSpOC SSA Ops with Combat Operations Division (COD) Space Battle Duty Technician (SBDT). Updated LCH and COD contact information. Updated ICD to LP 14-1. Added example of 30 day laser lookout.

## Distribution

U.S. Strategic Command JFCC SPACE/ **Joint Space Operations Center (1)**

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Laser Owners interfacing with Laser Clearinghouse (1 each)

# 1 INTRODUCTION

## 1.1 Purpose

The Laser Clearinghouse (LCH) Reports Handbook contains voice and hardcopy report and message templates required for information and data exchange between the LCH and laser owner/operators (LO/O). Additional data exchange formats are defined in the LCH Interface Control Document (ICD).<sup>1</sup> Depending on the type of predictive avoidance (P/A) provided, the LCH and/or the Joint Space Operations Center (JSpOC) **Combat Operations Division (COD) Space Battle Duty Technician (SBDT)**. This handbook applies to any laser programs receiving P/A support from the LCH or JSpOC COD.

The LCH and LO/Os must work together to provide safe and responsible laser activities, as required by Department of Defense Instruction (DODI) 3100.11.<sup>2</sup> LO/Os with non-waived lasers require Joint Functional Component Command (JFCC) for Space authorization to conduct laser activities per the U.S. Strategic Command (USSTRATCOM) Instruction.<sup>3</sup> Authorization is granted upon approval of the laser program P/A and Capability Validation plans. DOD LO/Os must obtain predictive avoidance open firing windows from the LCH or COD SBDT prior to conducting laser activities, per the individual laser P/A plans.

Laser systems currently conducting laser activities under previous agreements may continue to do so, with the understanding that the DODI and the P/A process will be mandated in the future to all DOD laser systems.

## 1.2 Handbook Maintenance

The JSpOC Unified Space Vault (USV, Laser Clearinghouse is the controlling authority for this handbook. The JSpOC can approve and implement revisions and updates as required to maintain the LCH mission. At a minimum, the handbook will be reviewed every two years.

## 1.3 Points of Contact

Table 1 contains phone numbers and e-mail addresses for the LCH and **COD**.

*Table 1 - Points of Contact.*

	<b>LCH</b>	<b>COD-SBDT</b>
Address	JSpOC/USV/LCH 747 Nebraska Ave, Room B209 Vandenberg AFB, CA 93437	JFCC - SPACE JSPOC/COD/SBDT Building 8410 Vandenberg AFB, CA 93437
E-mail	<a href="mailto:JSpOCLCH@us.af.mil">JSpOCLCH@us.af.mil</a>	<a href="mailto:JSpOCSSAOps@us.af.mil">JSpOCSSAOps@us.af.mil</a> (subject line include attn: SBDT)
SIPRNet	<a href="mailto:usaf.vandenberg.afspc.mbx.jspoc-lch@mail.smil.mil">usaf.vandenberg.afspc.mbx.jspoc-lch@mail.smil.mil</a>	<a href="mailto:usaf.vandenberg.afspc.mbx.jspoc-ssa-ops@mail.smil.mil">usaf.vandenberg.afspc.mbx.jspoc-ssa-ops@mail.smil.mil</a> (subject line include Attn: SBDT)

<sup>1</sup> *Interface Control Document for the USSTRATCOM JFCC SPACE for the Space Deconfliction System*, **B002-SPACE-DECON-LP 14-1-ICD-01**, 30 May 2014.

<sup>2</sup> DOD Instruction 3100.11, *Illumination of Objects in Space by Lasers*, 31 March 2000.

<sup>3</sup> U.S. Strategic Command Strategic Instruction 534-12, "Laser Deconfliction Process," 25 July 2007.

	<b>LCH</b>	<b>COD-SBDT</b>
Unclassified Phone	(805) 606-1075, DSN 276-1075 (805) 606-1282, DSN 276-1282	(805) 605-6546, DSN 275-6546
Secure Phone	(805) 606-1075, DSN 276-1075 (805) 606-1282, DSN 276-1282	(805) 605-3569, DSN 275-3569
Unclassified Fax	(805) 606-1610 ; DSN 276-1610	(805) 605-3464
Secure Fax	(805) 606-3799	(805) 605-3509

## 1.4 Reports

Table 2 lists the voice and text reports detailed in this handbook. Information includes Information Exchange Requirement (IER) number, report name, type, the report source and recipient, and the timeliness requirements or special considerations.

Reports may be Classified or Unclassified. Classification will be based on the laser system's Security Classification Guide. SIPRNet is the preferred method of text message reporting of SECRET information. JWICS will be used for higher classifications.

Note: More detailed Laser Activity Summary Report (LASR) information is found in the ICD (see Table 3 below).

**Table 2 - List of Voice and Text Reports.**

<b>IER #</b>	<b>Name/Reference</b>	<b>Type</b>	<b>From</b>	<b>To</b>	<b>Schedule</b>
1	Laser Test Master Schedule (details in Section 3.4)	Text	LO/O	LCH	Quarterly projection of laser firings; update for next 12 months of laser activities; submit no later than 2 weeks prior to the end of each calendar quarter.
4	Laser Status Report (details in Section 2.2)	Voice	LO/O	LCH or COD	1 hour prior to the start of daily laser activities.
5	Space Event Notification (details in Section 2.5)	Voice	LCH or COD	LO/O	As soon as possible following determination of a space event.
6	Quick Look Report (details in Section 2.3)	Voice	LO/O	LCH or COD	Within 15 minutes after completion of all daily laser activities.
7	Notification of Laser Firing Outside Authorized P/A Parameters (LOAP) (details in Section 2.4)	Voice	LO/O	LCH or COD	Within 15 minutes of determination of laser firing outside authorized P/A Parameters.
8	Report of LOAP (details in Section 3.2)	Text	LO/O	LCH	Within 12 hours of Notification of Laser Firing Outside Authorized P/A Parameters (IER #7).

IER #	Name/Reference	Type	From	To	Schedule
9	LASR (details in Section 3.3)	Text	LO/O	LCH	Archive the data necessary to complete the report for one year and generate upon request from LCH. If a LOAP Notification (IER #7) was submitted, provide the LASR to the LCH within 24 hours of notification.

Table 3 lists formatted messages detailed in the LCH ICD and required for typical laser operations using Centralized P/A.<sup>4</sup> The P/A Request Message (IER #2) is the LO/O's support request with information about the mission, lasers, targets, activity dates and times, and points of contact. The LCH or JSpOC will respond to the P/A Request Message with the P/A Approval Message (IER #3) listing open laser firing windows. Upon completion of the laser activity the LO/O submits the Laser Activity Summary Report (IER #9) to recap actual firing times and targets.

**Table 3 - List of ICD Reports.**

IER #	Name/Reference	Type	From	To	Schedule
2	P/A Request Message (details in ICD Section 4.2.1.1)	Text or XML*	LO/O	LCH or COD	Between 30 days and 3 days prior to laser activity; see P/A Plan for more detailed schedule constraints.
3	P/A Approval Message (details in ICD Section 4.3.1.1)	Text or XML*	LCH or JSpOC	LO/O	1 day prior to laser activity, or per P/A Plan.
9	LASR (details in ICD Section 4.2.1.3)	Text	LO/O	LCH	Archive the data necessary to complete the report for one year and generate upon request from LCH. If a LOAP Notification (IER #7) was submitted, provide the LASR to the LCH within 24 hours of notification.

\* LCH can receive and send PRMs and PAMs in XML format however Text values are the preferred format. If interested in sending PRMs and PAMs in XML please contact LCH for more information. XML information can be found in the LCH ICD<sup>5</sup>

<sup>4</sup> Standard Centralized Predictive Avoidance and Capability Validation Plan, Change 2, Revision A1, 1 November 2014, USSTRATCOM JFCC SPACE.

<sup>5</sup> Interface Control Document for the USSTRATCOM JFCC SPACE for the Space Deconfliction System, B002-SPACE-DECON-LP 14-1-ICD-01, 30 May 2014.

## 2 VOICE REPORTING TEMPLATES

### 2.1 Reporting Guidelines

Voice reporting is used to confirm or change a scheduled activity, provide laser status, indicate start and stop times of a laser activity, announce space events that may impact activities, inform of a laser firing outside authorized parameters, and other such information necessary to effectively conduct laser activities.

The LCH or **COD SBDT** will contact the LO/O with the Space Event Notification (IER #5) if necessary. The LO/O will initiate the Laser Status Report (IER #4), Quick Look Report (IER #6), and LOAP Notification (IER #7) in accordance with the following templates.

These reports will be directed to either the LCH or **COD SBDT** depending on which organization is designated in the LO/O's P/A Plan. However, the LCH should only be contacted during normal duty hours unless other arrangements have been made. **COD SBDT** is a 24/7 position and may be contacted at all other times. Normal duty hours for the LCH are from 0730 to 1630 Pacific Time, Monday through Friday, except holidays. Phone numbers are in Section 1.3 of this handbook. The purpose, time requirements, and other pertinent details are indicated in each template.

## 2.2 Laser Status Report (IER #4)

**Summary:** This is a voice report from the LO/O to the LCH or COD SBDT to verify that a scheduled laser activity is still planned, to verify communications links, and to provide status of the site's laser equipment and planned test. Use the *Quick Look Report* (Section 2.3) at the end of daily laser activities.

**Time Frame:** One hour prior to the start of daily laser activities.

**Note:** If call is classified be sure to use a secure communications system.

**Template:**

#	Item/Information	Fill In
1	<b>Classification</b> Note whether call is Unclassified or Secret.	
2	<b>Laser System Name</b>	
3	<b>Name/Rank of Caller</b>	
4	<b>Organization</b> Note your organization or company.	
5	<b>Confirm Communications</b> Note whether call is clear, has some static, etc. Exchange phone numbers for mission use.	
6	<b>Start Time (UTC)</b> Note time of scheduled laser activity.	
7	<b>Stop Time (UTC)</b> Note anticipated stop time.	
8	<b>Status of Laser System</b> Note whether system is Green (on track), Yellow (mission at risk) or Red (likely cancel). Note reason, e.g. weather, equipment, etc.	
9	<b>Status of LCH</b> Note status of underway or expected Space Event.	
10	Record <b>Date/Time of Call (UTC)</b>	

**Sample script:**

a) "Hello Sir or Ma'am. This is an \_\_\_\_\_ Laser Status Report for the \_\_\_\_\_ laser program. My name is \_\_\_\_\_ and I work for \_\_\_\_\_."

b) "How do you read me?" "What phone number should I use for this mission?"

c) "Our anticipated UTC start time is \_\_\_\_\_ with a UTC stop time of \_\_\_\_\_."

d) "Our laser system status is \_\_\_\_\_."

e) "Is a Space Event underway or expected?"



### 2.3 Quick Look Report (IER #6)

Summary: This is a voice report from the LO/O to the LCH or COD SBDT to confirm the completion of daily laser activities. If an event is cancelled, such as a target scrub, use this report to notify the LCH of the cancellation and provide an estimated time for the next operational window, if available.

Time Frame: Within 15 minutes after completion of all daily laser activities.

Note: If call is classified be sure to use a secure communications system.

Template:

#	Item/Information	Fill In
1	<b>Classification</b> Note whether call is Unclassified or Secret.	
2	<b>Laser System Name</b>	
3	<b>Name/Rank of Caller</b>	
4	<b>Organization</b> Note your organization or company.	
5	<b>Stop Time (UTC)</b> Stop time of last laser activity.	
6	<b>Assessment of Parameters</b> Brief Assessment of whether laser activity was within authorized parameters.	
7	<b>Assessment of Success</b> Brief assessment of laser activity success. If for the last action of a laser activity period also assess the entire period.	
8	Record <b>Date/Time of Call (UTC)</b>	

#### Sample script:

a) "Hello Sir or Ma'am. This is an \_\_\_\_\_ Quick Look Report for the \_\_\_\_\_ laser program. My name is \_\_\_\_\_ and I work for \_\_\_\_\_."

b) " The Stop Time of our laser activity occurred at a UTC time of \_\_\_\_\_."

c) "Our laser activity parameters assessment is that [we fired within authorized parameters]."

d) " Our laser activity success assessment is \_\_\_\_\_."

## 2.4 Notification of Laser Firing Outside Authorized P/A Parameters (IER #7)

**Summary:** This is a voice report from the LO/O to the LCH or COD SBDT to provide initial notification that a laser has fired outside authorized predictive avoidance parameters. For centralized predictive avoidance, this means that (1) the laser was outside the laser location listed in the P/A Approval Message, (b) the laser fired outside an authorized pointing direction in the P/A Approval Message when the Keep-Out Cone is taken into account, or (3) the laser was fired outside an open window time specified in the P/A Approval Message. For decentralized predictive avoidance, firing outside authorized parameters is defined as a laser firing that may have posed a hazard to a satellite due to the close proximity to the satellite that exceeds the uncertainties of the Keep-Out Cone. A decentralized LOAP may be related to a procedural deviation, software issue or equipment malfunction. This voice report must be followed up by the hardcopy LOAP Report (Section 3.2) within 12 hours.

**Time Frame:** Within 15 minutes following the determination of firing outside parameters.

**Note:** If call is classified be sure to use a secure communications system.

**Template:**

#	Item/Information	Fill In
1	<b>Classification</b> Note whether call is Unclassified or Secret.	
2	<b>Laser System Name</b>	
3	<b>Name/Rank of Caller</b>	
4	<b>Organization</b> Note your organization or company.	
5	<b>Nature of Incident</b> Describe the circumstances related to the firing outside authorized parameters.	
6	<b>Time of Incident (UTC)</b>	Start Time: Stop Time:
7	<b>Laser System Location</b> (latitude in decimal degrees North or South/ longitude in decimal degrees East or West/ altitude in kilometers)	Latitude: Longitude: Altitude:
8	<b>Output Power</b> (Watts - average or equivalent power and instantaneous peak power for pulsed lasers)	
9	<b>Laser Pointing Information</b> (azimuth in degrees relative to true North/ elevation in degrees above local horizon; if P/A Approval Message used other target definition, provide information as appropriate)	Azimuth: Elevation:
10	<b>Laser Target</b> Note satellite number, missile, point in space, star, etc.	
11	<b>P/A Open Windows</b> Note applicable open window times (UTC).	

#	Item/Information	Fill In
12	<b>P/A Pointing Limits</b> Note applicable azimuth and elevation limits.	
13	Record <b>Date/Time of Call</b> (UTC)	

**Sample script:**

a) "Hello Sir or Ma'am. This is an \_\_\_\_\_ Notification of Laser Firing Outside Authorized Parameters for the \_\_\_\_\_ laser program. My name is \_\_\_\_\_ and I work for \_\_\_\_\_."

b) "The circumstances of the LOAP are as follows: \_\_\_\_\_."

c) "The Laser System Location was \_\_\_\_\_ N Latitude, \_\_\_\_\_ W Longitude, with an Altitude of \_\_\_\_\_ km."

d) "The LOAP had a Start Time of \_\_\_\_\_ and a Stop Time of \_\_\_\_\_."

e) "The laser Output Power was \_\_\_\_\_ Watts (and \_\_\_\_\_ Watts for the \_\_\_\_\_ laser and \_\_\_\_\_ Watts for the \_\_\_\_\_ laser if multiple lasers were fired)."

f) "The Laser was pointed at \_\_\_\_\_ degrees azimuth, \_\_\_\_\_ degrees elevation."

g) "The laser target was \_\_\_\_\_."

h) "The P/A Open Window Times were \_\_\_\_\_ to \_\_\_\_\_ (UTC)." OR "The P/A Open Window Times are not known at this time and will be provided in the LOAP Report."

i) "The P/A Pointing Limits were \_\_\_\_\_ to \_\_\_\_\_ degrees azimuth and \_\_\_\_\_ to \_\_\_\_\_ degrees elevation." OR "The P/A Pointing Limits are not known at this time and will be provided in the LOAP Report."

j) "Did you copy?" "Are there any questions?"

## 2.5 Space Event Notification (IER #5)

**Summary:** This is a voice report from the LCH or **COD SBDT** to inform the LO/O of a space event that impacts planned laser activities. If the LCH is providing the P/A information for the specific laser activity in question, they will notify the LO/O of the space event during normal duty hours. **COD SBDT** will provide the notification in all other situations.

The event may be a maneuver of a satellite or a foreign or domestic launch. Usually this notification will be used if the event occurs within 24 hours of the scheduled activity. However, if the LCH has sufficient time to determine new ephemerides and evaluate the effect of the maneuver on the laser activity, and no change to approved scheduled activities is required, it is not necessary for the LCH to notify the LO/O. If there is insufficient time to analyze the impact, the LCH will notify the LO/O of the event as soon as possible and delay the laser activity. **COD SBDT** will not perform this analyses, and will directly call the LO/O with notification of the delay. The LCH will determine new predictive avoidance windows and provide those times to the LO/O as soon as practical.

**Time Frame:** As soon as possible following the determination of a space event.

**Note:** If call is classified be sure to use a secure communications system.

#	Item/Information	Fill In
1	<b>Classification</b> Note whether call is Unclassified or Secret.	
2	<b>Name/Rank of Caller</b>	
3	<b>Organization</b> Note whether call is from LCH or <b>COD SBDT</b> .	
4	<b>Nature of space event</b> (If classification of call permits, note whether event is a maneuver or launch).	
5	<b>Time of space event (UTC)</b>	
6	<b>Impact</b> Note impact on scheduled laser activities.	
7	<b>Time to New Windows</b> Note estimated time until new predictive avoidance windows will be provided to the LO/O.	
8	<b>Options</b> Discuss options or alternative plans, if available.	
9	Record <b>Date/Time of Call (UTC)</b>	

### 3 TEXT REPORT TEMPLATES

#### 3.1 Reporting Guidelines

Text reporting is used to formally document laser firings outside of authorized predictive avoidance parameters and long-term laser schedules. The LO/O will initiate the Laser Firing Outside of Authorized P/A Parameters Report (IER #8), Laser Activity Summary Report (IER #9) and Laser Test Master Schedule (IER #1) in accordance with the following templates. The LO/O will forward these documents to the LCH by means of portable document formats agreed upon with the LCH. Report purpose, time requirements, and other pertinent details are indicated in each template.

Acceptable transmission means include secure and unclassified e-mail and fax. The preferred means of transmission for classified reports up to collateral SECRET is SIPRNet. The preferred means of transmission for unclassified reports is e-mail. Other means may be used as agreed upon with the LCH. E-mail and fax numbers for the LCH are in Section 1.3 of this handbook.

#### 3.2 Report of Laser Firing Outside Authorized P/A Parameters (IER #8)

Summary: This is a text report that formalizes notification from the LO/O to the LCH that a laser has fired outside authorized predictive avoidance. For centralized predictive avoidance, this means that (1) the laser was outside the laser location listed in the P/A Approval Message, (b) the laser fired outside an authorized pointing direction in the P/A Approval Message when the Keep-Out Cone is taken into account, or (3) the laser was fired outside an open window time specified in the P/A Approval Message when the Keep-Out Cone is taken into account. For decentralized predictive avoidance, firing outside authorized parameters is defined as a laser firing that may have posed a hazard to a satellite due to the close proximity to the satellite that exceeds the uncertainties of the Keep-Out Cone. A decentralized LOAP may be related to a procedural deviation, software issue or equipment malfunction. The LCH will use this information to further its assessment to determine whether a satellite hazard existed as a result of the firing. Attachments with additional detail may be included as appropriate. The document should be signed at the O-6, GS-15, or Director level and transmitted in a way that preserves the written signature. This may include fax or e-mail of the scanned original.

Time Frame: Within 12 hours of Notification of the LOAP (Section 2.4).

Note: If the report is classified be sure to mark appropriately and use secure communications.

Template:

FROM: (Laser Owner/Operator)

TO: JSpOC/ USV (Laser Clearinghouse)

SUBJECT: Laser Firing Outside Authorized P/A Parameters (LOAP) Report

1. This is to notify the Laser Clearinghouse of a laser incident. To assist in further analysis, the following information describes the incident:

- a. Laser system name and configuration (for pulsed lasers - pulse width, pulse repetition frequency, pulse energy, divergence half-angle, and wavelength; for continuous wave lasers - power, wavelength, divergence half-angle).
- b. Laser location (latitude, longitude, and elevation).
- c. Time of laser firings during incident (date, hh:mm:ss (UTC)).
- d. Laser target (satellite number, missile, point in space, star, etc.).
- e. Laser pointing direction (azimuth relative to true north and elevation above the local horizon; preferred units: degrees).
- f. Assessment of incident, including how far outside authorized parameters were the firings.
- g. Laser system or test conditions that may have contributed to the laser incident, including actions to mitigate future incidents.
- h. Identify whether LOAP related to centralized or decentralized deconfliction.

2. Point of contact/phone/fax numbers.

3. If additional information and detailed data (e.g. system data logs, etc.) become available to clarify or provide more detail about the incident, we will forward it as part of the next Laser Activity Summary Report, or within 7 calendar days, whichever is sooner.

4. Contact information, e.g. phone numbers, other POCs, etc.)

<<Signature>>

Name, Rank / Grade, Office Symbol Title

### 3.3 Laser Activity Summary Report (IER #9)

**Summary:** The LASR is a post-mission recap of the laser’s firings for one event. The message enables analysis of a laser firing event and may be submitted upon request or occasion of lasing outside of authorized predictive avoidance parameters. The report contains laser and mission information, mission assessment and lasing outside of authorized predictive avoidance parameters information and a summary of the actual laser firing times and associated targets. The LCH will use this information to further its assessment to determine whether a satellite hazard existed as a result of the firing.

**Time Frame:** Within 24 hours of Notification of LOAP (Section 2.4) or as requested.

**Note:** If the report is classified be sure to mark appropriately and use secure communications.

**Template:** The LASR file consists of a header and mission information section for the mission, laser/source information and laser firing information sections for each laser fired, and shot information entry for each time a laser is turned on. Shot information should be recorded at 1 Hertz or higher rates.

Example is shown below.

Classification:      Unclassified	
Mission ID:	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx_PAMID_L
File Name:	LASR_20060331.txt
Message Purpose:	Laser Activity Summary Report
Report Date/Time (UTC):	2005 SEP 20 07:20:00
Point of Contact:	John Doe
	(Voice) 808-123-4567, (Fax) 808-123-4567
	(Secure) John.Doe@xxxx.af.smil.mil
<b>MISSION INFORMATION</b>	
-----	
Owner/Operator:	Laser Program
Mission Name/Number:	Laser Name_Wavelength_Power_Divergence_PRF

PAM Target Type: Fixed Point

Location: White Sands Missile Range

Start Date/Time (UTC): 2005 SEP 15 00:00:00

End Date/Time (UTC): 2005 SEP 15 23:59:59

Duration (HH:MM:SS): 23:59:59

#### LASER INFORMATION

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Laser Name: Laser Mission Name

CW Output Power: 123 Watts

Pulse Fluence:

Pulse Repetition Freq:

Max half beam divergence: 0.008 degrees half-angle

#### LASER FIRING INFORMATION

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Mission Assessment: Counter Rocket testing was successful. No unusual conditions.

Lasing Outside of Authorized Parameters: No

#### LASER SHOTS

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Shot Number: 1

PAM Target ID: 1

Actual Source Type: Fixed Point

Actual Target Type: Fixed Azimuth/Elevation

Source Source Source Laser Laser



Time	Latitude	Longitude	Height	Azimuth	Elevation
2004095181940.000	35.3944	174.6570	0.0001 km	165.40	5.14
2004095181941.000	35.3944	174.6571	0.0001 km	165.39	5.24
2004095181942.000	35.3944	174.6572	0.0001 km	165.38	5.34
2004095181943.000	35.3944	174.6573	0.0001 km	165.37	5.44
2004095181944.000	35.3944	174.6574	0.0001 km	165.36	5.54
2004095181945.000	35.3944	174.6575	0.0001 km	165.35	5.64
2004095181946.000	35.3944	174.6576	0.0001 km	165.36	5.74
2004095181947.000	35.3944	174.6577	0.0001 km	165.34	5.84

Shot Number: 2

PAM Target ID: 3

Actual Source Type: Fixed Point

Actual Target Type: Fixed Azimuth/Elevation

Time	Source Latitude	Source Longitude	Source Height	Laser Azimuth	Laser Elevation
2004095191020.000	35.3945	174.6580	0.0001 km	165.80	12.20
2004095191030.000	35.3946	174.6580	0.0001 km	165.90	12.30
2004095191040.000	35.3947	174.6580	0.0001 km	166.00	12.40
2004095191050.000	35.3948	174.6580	0.0001 km	166.10	12.50
2004095191100.000	35.3949	174.6580	0.0001 km	166.20	12.60
2004095191110.000	35.3950	174.6580	0.0001 km	166.30	12.70

END OF FILE

### 3.4 Laser Test Master Schedule (LTMS) (IER #1)

Summary: The LTMS is a text report from the LO/O to the LCH that provides a forecast of laser activities. This input lists projected activities for the next 12 months, including updates and new activities. The LO/O should provide as much detail as possible, with the understanding that schedules are subject to change. Dates that are tentative should be listed but so marked.

Time Frame: At least two weeks before the start of each calendar quarter.

Note: If the schedule is classified be sure to mark appropriately and use a secure communications system.

Template (Example):

<b>Laser Owner</b>	<b>Sponsoring Agency</b>	<b>Description of Laser Activity</b>	<b>20xx Laser Activity Schedule</b>
XXX	System Program Office	Testing of airborne sensor laser for ranging information on ballistic targets.	6 firings per month -April through September.
YYY	MDA (for example.)	Block 10 testing of missile defense capability.	No above-the-horizon firings in next 12 months.
ZZZ	AFRL (for example)	Verification and demonstration of the ZZZ High Energy Laser.	Periodic weekly firings in June through December.
XYZ	Keck Observatory (for example)	Satellite precision ranging, missile defense research, and atmospheric research.	Daily firings throughout 2015 and 2016.

### 3.5 30 Day Laser Lookout

**Summary:** Provide the LCH the dates and times for laser firings via the LCH requested spreadsheet format. Coordinate with the LCH on predictive avoidance runs to be performed, method of transmission of safe firing windows, frequency and timing of support plus points of contact (phone, fax and e-mail).

**Time Frame:** The LCH sends out a spreadsheet format via email for the 30 day lookout and is expected back to LCH by the 15th of the current month for the next months' activity. Dates that are tentative should be listed. Send to LCH is via email.

**Note:** If the schedule is classified be sure to mark appropriately and use a secure communications system.

**Template (Example):**

Oct-14																																		
	Wed	Thu	Fri	Sat	Sun	Mon	Tues	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29					
Laser Program / Laser Name	JD	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302				
		1700z-1700z daily									0100z-0115z Daily							0500z-1500z daily															0300z-0600z Daily each day	
Univ of Masons / Till_1.55um_550W_90urad	Requesting planning PRMs for 1700z-1700z each day for 1-22 October																																	
	Instructions																																	
	1) Include your Laser program and name and Highlight the cells corresponding to the days your laser will be operating																																	
	2) Provide as much information as possible in an inserted comment (if helpful to long-range planning for LCH)																																	
	3) If your program has multiple lasers list all lasers and planned activity. If a combination laser use the combo name.																																	
	4) Include planning requests corresponding to the days requested																																	
	5) Provide back to LCH by the 15th of the previous month via email to JSpOCLCH@us.af.mil																																	