National Marine Fisheries Service Northeast Region
Electronic Vessel Trip Reporting (eVTR)
Technical Requirements

Introduction

In July, 2011, the National Marine Fisheries Service (NMFS) Northeast Region (NERO) approved the use of electronic reporting of Vessel Trip Reports (VTRs) on a limited, voluntary basis. This document specifies technical requirements that must be satisfied to successfully implement electronic reporting.

The regulatory requirements that eVTR software must meet are outlined in 50 CFR 648.7(b)(1)(i)
(http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&tpl=/ecfrbrowse/Title50/50cfr648_main_02.tpl)

This document provides additional information such as file layouts, security and submittal protocols that aren't addressed in the regulation cited above. NMFS will review developed products to ensure they are compliant with the regulatory and technical requirements. Beyond the regulatory and specified additional requirements contained in this document, the look, feel and feature set of the product is left to the developer.

Background

A paper VTR (**Appendix A**) has three major sections. A trip section which identifies the vessel, trip type (commercial, party, charter or RSA) , number of crew/anglers and the dates and times for when it departed and returned to port (sailed and landed respectively). It should be noted that the sailing and landing ports don't have to be the same. The second section identifies sub-trip information (aka effort). This portion of the VTR captures the chart area where the vessel fished, gear information, haul/soak time, number of hauls/sets/strings, etc. The third section records the species, catch (kept and discarded), dealer it was sold to and the date and port of offload associated with a given sub-trip.

A sub-trip represents the effort and catch associated with given combination of chart area, gear type and mesh size. If any of these three change during the course of a trip an additional VTR page must be completed using the trip information from the first page with the effort and catch sections filled in as appropriate.

A well-designed eVTR program or application has the ability to significantly reduce the amount of time required for a vessel operator to comply with their VTR reporting requirements by eliminating the need to fill out redundant information (e.g., vessel permit, registration, gear type).

Technical Guidelines

Unique Trip identifier
Each trip must have a unique trip identifier based upon the concatenation of the vessels federal permit number (6 digits) the year (2 digits), month (2 digits), day (2 digits) and hour (2 digits based upon 24 hour clock or military time) when the trip identifier was created (e.g., 12345613051210; pppppyymmddhh). The year, month, day and hour portion of the trip identifier can represent any point between the sailing and landing for a trip.

Once a trip identifier is generated by the electronic logbook (ELB) program it cannot be changed. The unique trip identifier is used to link a fishing trip to other fisheries dependent data collection systems such as dealer and observer reports. The trip identifier should be readily available to the vessel operator since they will need to provide the identifier to the dealer(s) purchasing their catch.

File Format
eVTR applications must;
1. produce a data file in the specified standard format (**Appendix B**) that can be successfully loaded into NMFS-NE databases using existing load routines.

2. meet NERO data collection requirements including the use of NERO support support tables (**Appendix C**).

Electronic Signature
Immediately upon completion of a trip report, operators must enter their NMFS supplied operator number and password as a means of digitally signing their eVTR. The eVTR software must require the operator to enter their password twice to ensure accuracy before the trip can be successfully signed. The password will be verified upon receipt by NMFS and files failing verification will be rejected.

The following password content information is provided so developers will know the format and content.

- The password will be between 8 and 12 characters in length
- It will have at least one capital alpha
- It will have at least one lower case alpha
- It will have at least one numeric
- It will have at least one special character from the following list: ~ ! @ # $ % ^ & * ( ) _ - + = { } [ ] \ | : ; < > , . ? /

The application must display the following text during the signing ceremony:
"*I certify that the vessel trip information I am providing is true, complete and correct to the best of my knowledge, and made in good faith. Making a false statement is punishable by law (18 U.S.C. 1001).*"
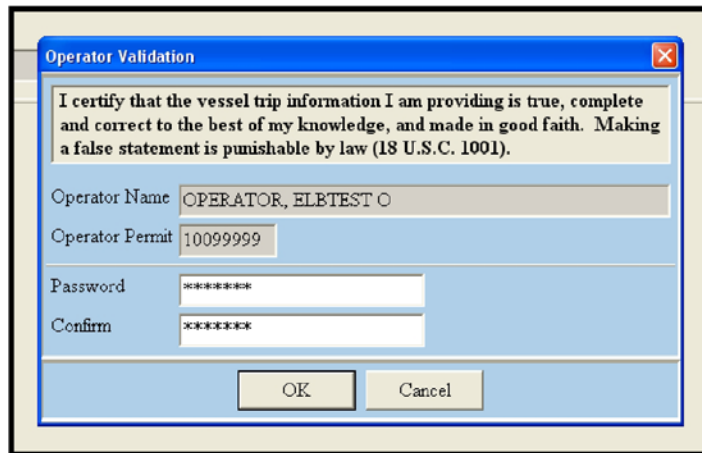

Figure 1. Example of the signing ceremony in an eVTR application.

File Transfer Security

Trip report files must be transmitted to NMFS using one of two secure methods. The first, and preferred, method is to upload using a HTTPS POST. To use this method:

- Request the page at: https://www.nero.noaa.gov/NMFSlogin/fol/evtr_api/
- Include the CSV content as described, including line breaks, in a POST header called 'evtr' (case-sensitive).
    - A successful submission will return 'Report Accepted'
    - A failure will return one of a variety of descriptive error messages
    - "Authentication Error" will indicate an invalid operator_id / password pair.

The second method is to upload the generated trip file via the Fish Online web portal. To use this method the end user would:

- Login to their Fish Online account
- Select 'Trip Report Upload'
- Click on the 'Browse' button
- Select the file you wish to upload
    - A successful submission will return 'Report Accepted'
    - A failure will return one of a variety of descriptive error messages
    - "Authentication Error" will indicate an invalid operator_id / password pair

Note: The Fish Online upload method will be available in 4Q 2013.

Quality Assurance/Quality Control (QA/QC)
When a trip report is submitted to NERO it will be subject to numerous quality control (QC) audits. eVTRs that fail audit checks will result in the rejection of the report and will require the vessel operator to correct and resubmit the report. We recommend that your application contain the same error checking logic as the NERO QC checks in order to prevent the submission of erroneous reports resulting in the rejection of the report. A list of the NERO QC audits can be found in **Appendix D**.

Corrections to a Previously Submitted eVTR
Certain errors in an eVTR can only be discerned after the eVTR is submitted and its data elements are compared to other data sources. When this occurs, NMFS will notify the vessel owner of the problem(s) so that they may correct the eVTR and resubmit. This will require that eVTR vendors provide a method for copying and then modifying, sometimes significantly, a previously submitted eVTR. The vessel owner must then have the ability to submit the amended eVTR in the same manner as the original submission. Note: It is critical that the trip identifier from the original submission be used when submitting the revised eVTR.

Display of Trip Reports
When requested by authorized personnel, a vessel must present for inspection vessel trip reports from the previous twelve months. Thus the product must have the capability to display a facsimile of the paper VTR form with a separate 'page' for each sub-trip. It is desirable for the eVTR software to be able to print, export or email VTR facsimiles.

Appendix A – VTR Form

FISHING VESSEL TRIP REPORT

DID NOT FISH	
Start Date	End Date
____/____/____ MM DD YY	____/____/____ MM DD YY

VTR Serial Number: **12345678**

1. Vessel Name	2. USCG Documentation or State Registration	3. NMFS Vessel Permit Number

4. Date and Time Sailed	5. Date and Time Landed
Date: ____/____/____ Military Time: ____ : ____ MM DD YY HH MM	Date: ____/____/____ Military Time: ____ : ____ MM DD YY HH MM

6. Trip Type – check one box and record the number of crew including the captain. Party/Charter must also include the number of anglers.

☐ Commercial: # of Crew_____   ☐ RSA/EFP: # of Crew_____   ☐ Party: # of Crew _____ / # of Anglers _____   ☐ Charter: # of Crew _____ / # of Anglers _____

COMPLETE A NEW FORM FOR EACH DIFFERENT CHART AREA, GEAR TYPE OR MESH/RING SIZE USED ON A TRIP.

7. Gear Code	8. Mesh/Ring Size	9. Gear Quantity	10. Gear Size	11. Fishing Depth (Fathoms)	12. Number of Hauls

13. Chart Area	14. Latitude ____ : ____ DEGREES MINUTES	15. Longitude ____ : ____ DEGREES MINUTES	16. Tow / Soak Time ____ : ____ HOURS MINUTES

17. Species Code	18. Kept	19. Discarded	20. Dealer Permit Number	21. Dealer Name	22. Date Sold MM/DD/YY	23. Offloading Port for each species City	State

I certify that the information provided on this form is true, complete and correct to the best of my knowledge, and made in good faith. Making a false statement on this form is punishable by law (18 U.S.C. 1001).

24. Operator Permit Number	25. Operator Name	26. Operator Signature	27. Date Signed MM/DD/YY

NMFS COPY

Appendix B - Export File Field/Column Descriptions and Business Rules

Export file description
File is in CSV format.

- **File Header**
    - Record Type
        - 0 - Header
    - Program Name (e.g. ACME)
    - Program Version (e.g. 2.01)
    - Total Trip Record Count for File
    - Total Effort Record Count for File
    - Total Catch Record Count for File
    - Unique eVTR Data Transmission ID Number

Appendix B – continued

- **Trip Record**
  - Record Type
    - 1 – Trip Record
  - Effort Record Count for this Trip
    - Numeric
  - Trip ID (eVTR Number)
    - Numeric
  - NMFS Vessel Permit Number
    - Numeric
  - Vessel Registration or USCG Doc Number
    - String
  - Date and Time Sailed (local time onboard as of sail date)
    - String
    - Format: YYMMDDHHMI
      - YY = Year
      - MM = Month
      - DD = Day
      - HH = Hour
        - 24 hour clock
      - MI = Minutes
        - 00 thru 59
  - Date and Time Landed (first landing)
    - String
    - Format: YYMMDDHHMI
  - Trip Type
    - Numeric
    - Valid values in eVTR_Trip_Types_Current.xls
  - Number of Crew
    - Numeric
  - Number of Anglers (leave blank for commercial or RSA trips)
    - Numeric
  - Operator First Name
    - String
  - Operator Last Name
    - String
  - NMFS Operator Permit Number
    - Numeric
  - Operator Password
    - String
  - Trip Activity Type
    - Numeric
    - Used to further define type of effort used on a trip or reason why a trip was terminated (e.g. Mechanical Breakdown, Set Only, Good Samaritan, etc.)
    - Valid values in eVTR_Trip_Activity_Types_Current.xls
  - Trip Comments (blank if no comments)
    - String

Appendix B – continued

- **Sub Trip Record**
  - o Record Type
    - ▪ 2 – Sub Trip (aka 'Effort')
  - o Catch Record Count for this Effort
    - ▪ Numeric
  - o VTR Gear Code
    - ▪ String
    - ▪ Limited to GEAR_CODE listed in eVTR_Gear_Codes_Current.xls
  - o Mesh/Ring Size (set to blank if not applicable)
    - ▪ Numeric
    - ▪ Validated using MINIMUM_MESH_RING_SIZE and MAXIMUM_MESH_RING_SIZE columns in eVTR_Gear_Codes_Current.xls associated with GEAR_CODE selected above.
    - ▪ Values that fail validation will be allowed ideally with a visual warning to the user.
  - o Gear Quantity (set to blank if not applicable)
    - ▪ Numeric
    - ▪ Validated using MINIMUM_GEAR_QTY and MAXIMUM_GEAR_QTY columns in eVTR_Gear_Codes_Current.xls associated with GEAR_CODE selected above.
    - ▪ Values that fail validation will be allowed ideally with a visual warning to the user.
  - o Gear Size (set to blank if not applicable)
    - ▪ Numeric
    - ▪ Validated using MINIMUM_GEAR_SIZE and MAXIMUM_GEAR_SIZE columns in eVTR_Gear_Codes_Current.xls associated with GEAR_CODE selected above.
    - ▪ Values that fail validation will be allowed ideally with a visual warning to the user.
  - o Latitude or Loran1
    - ▪ String
    - ▪ LORAN
      - Position supplied as 5 digit number
    - ▪ Decimal Degree
      - Minus sign if below the equator otherwise omit
      - DD.DDDD
    - ▪ Degree: Minute
      - Minus sign if below the equator otherwise omit
      - DD:MM
  - o Longitude or Loran2
    - ▪ String
    - ▪ Format same as for Latitude except whole portion of degrees are in DDD format (instead of DD).
    - ▪ Minus sign if west of the prime meridian otherwise omit. Not applicable to LORAN.

Appendix B – continued

- **Sub Trip Record**
    - o Chart Area
        - ▪ Numeric
        - ▪ Limited to values found in 'NEMAREA' column in FVTR_Location_To_Area_YYMMDD.xls.
    - o Fishing Depth
        - ▪ Numeric
    - o Fishing Depth Unit of Measure
        - ▪ String
        - ▪ Default is assumed to be fathoms.
        - ▪ Valid Values
            - • FT – Feet
            - • MT – Meters
            - • FA - Fathoms
    - o Number of Hauls (set to blank if not applicable)
        - ▪ Numeric
        - ▪ Validated using MINIMUM_NBR_OF_HAULS and MAXIMUM_NBR_OF_HAULS columns in eVTR_Gear_Codes_Current.xls associated with GEAR_CODE selected above.
        - ▪ Values that fail validation will be allowed ideally with a visual warning to the user.
    - o Tow/Soak Time (set to blank if not applicable)
        - ▪ String
        - ▪ Format HHHH:MM Validated using MINIMUM_AVG_SOAK_TIME and MAXIMUM_AVG_SOAK_TIME columns in eVTR_Gear_Codes_Current.xls associated with GEAR_CODE selected above.
        - ▪ Values that fail validation will be allowed ideally with a visual warning to the user.

Appendix B – continued

- **Catch Information**
    - Record Type
        - 3 – Catch associated with a given Sub Trip
    - Species
        - String
        - Limited to values found in eVTR_Species_Codes_Current.xls.
        - Species lookup should be available
    - Kept
        - Numeric
    - Discarded
        - Numeric
    - Unit of Measure
        - String
        - Valid values:
            - LBS - Pounds
            - BSH - Bushels
            - CNT - Count
        - 'CNT' is only valid for use with Trip Type 2 or 3
        - If a TRIP Type of 2 or 3 is specified, and UOM is other than 'CNT', Dealer Permit Number, Dealer Name, Date Sold and Offloading Port must be populated.
    - Dealer Permit Number (for non-dealer catch, use "special" codes).
        - Numeric
        - Leave blank if catch consists only of discarded (no kept).
        - Validated using DEALER_NUMBER column in eVTR_Dealer_Listing_Current.xls
        - Values that fail validation will be allowed ideally with a visual warning to the user.
    - Dealer Name
        - String
        - Leave blank if catch consists only of discarded (no kept).
        - Free Text Entry
    - Date Sold
        - Numeric
        - Leave blank if catch consists only of discarded (no kept).
        - Format: YYMMDD
            - YY = Year
            - MM = Month
            - DD = Day
    - Offloading Port
        - String (must maintain leading zeros in port code)
        - Valid values found in eVTR_Port_Listing_Current.xls
        - Leave blank if catch consists only of discarded (no kept).
        - This field is populated with the 6 digit PORT_CODE associated with a selected PORT_NAME & PORT_STATE combination.
        - The PORT_NAME and PORT_STATE should be used when generating the facsimile.

Appendix B – continued

Export file example

```
0,ACME,1.01,1,3,18, 12345613041009
1,3,12345613041009,123456,MS1234XX,1304040000,1304051845,1,4,,"OP FIRST NAME","OP
LAST NAME",10099999,"12345aA!",,
2,8,OTF,6.500,1,150.0,40:51,-067:05,525,60,FA,7,14:45
3,COD,3500,300,POUNDS,3278,"ZEUS PACKING INC",130405,240301
3,DGSP,0,150,POUNDS,,,,
3,FLBB,500,0,POUNDS,3278,"ZEUS PACKING INC",130405,240301
3,FLGS,50,0,POUNDS,9876,"MY CUSTOM DEALER",130405,240301
3,FLGS,250,0,POUNDS,3278,"ZEUS PACKING INC",130405,240301
3,HADD,450,0,POUNDS,3278,"ZEUS PACKING INC",130405,240301
3,WHAK,4800,200,POUNDS,9877,"NEW CUSTOM DEALER",130406,240115
3,POLL,2500,0,POUNDS,9877,"NEW CUSTOM DEALER",130406,240115
2,5,OTF,6.500,1,180.0,41:31,-068:25,522,40,FA,5,6:0
3,COD,400,0,POUNDS,3278,"ZEUS PACKING INC",130405,240301
3,WHAK,1100,0,POUNDS,9877,"NEW CUSTOM DEALER",130406,240115
3,WHAK,100,0,POUNDS,8,"LANDED, UNMARKETABLE CATCH (LUMF)",130406,240115
3,POLL,900,0,POUNDS,9877,"NEW CUSTOM DEALER",130406,240115
3,SKATE,80,10,POUNDS,3278,"ZEUS PACKING INC",130405,240301
2,5,LLB,,240,2.1,42:01,-067:59,522,50,FA,5,5:42
3,COD,250,0,POUNDS,3278,"ZEUS PACKING INC",130405,240301
3,DGSP,0,25,POUNDS,,,,
3,FLYT,150,0,POUNDS,3278,"ZEUS PACKING INC",130405,240301
3,MONK,110,0,POUNDS,3278,"ZEUS PACKING INC",130405,240301
3,HADD,200,0,POUNDS,3278,"ZEUS PACKING INC",130405,240301
```

Appendix C – Lookup Tables

eVTR_Dealer_Listing_Current	Provides dealer code, dealer name, port and state along with special codes for Home Consumption, Bait, etc.
eVTR_Gear_Codes_Current	Provides valid gear codes along with additional information that can be used for range checking values such as mesh size, quantity, soak time etc. associated with a given gear code.
eVTR_Location_to_Area_Current	Provides for the conversion of a specified latitude, longitude and a ten minute square into a chart area
eVTR_Port_Listing_Current	Provides the port code for a specified port and state combination.
eVTR_Species_Codes_Current	Provides synonym(s), species code and common name for species in the NER. The synonyms provide for lookups using colloquial names e.g. DAB = American Plaice Flounder
eVTR_Trip_Activity_Types_Current	Sub categories used to refine a trip type
eVTR_Trip_Types_Current	Valid trip types

Appendix D – Quality Control Audit Rules

AUDIT RULE
DATE LAND AFTER TODAYS DATE
DATE LAND BEFORE DATE SAIL
DATE LAND MISSING
DATE SAIL AFTER TODAYS DATE
DATE SAIL MISSING
DUPLICATE OF EXISTING TRIP WITH SAME PERMIT AND DATE SAIL
DUPLICATE TRIP REPORTED
MISMATCH BETWEEN SUBTRIPS REPORTED AND SUBTRIP RECORD COUNT
NO EFFORT TRIP MISSING REQUIRED VALUES
TRIP ID DOES NOT MATCH VESSEL PERMIT NUMBER
TRIP ID INVALID
TRIP MISSING SUBTRIP RECORDS
VESSEL PERMIT NUMBER MISSING
VESSEL PERMIT NUMBER SUBMITTED INVALID
AREA INVALID
GEAR REPORTED WITHOUT A SPECIES
GEARCODE INVALID
MISMATCH BETWEEN CATCH REPORTED AND CATCH RECORD COUNT
ORPHAN SUBTRIP RECORD
SET ONLY TRIP MISSING REQUIRED VALUES
SUBTRIP MISSING CATCH RECORDS
INVALID PORT CODE
ORPHAN CATCH RECORD
PORT CODE IS MISSING
SPECIES CATCH WEIGHT MISSING IN KEPT AND DISCARDED
SPECIES CODE INVALID
SPECIES CODE MISSING