



## **Appendix C - Report Writers Guide**

### **1.0 Purpose**

For an Occurrence Reporting Program to work effectively, all reports should be consistent in level of depth and definition of the data Fields. This appendix provides an expansion of the requirements that are in the DOE Order 232.1 and on the utilization of the ORPS software.

### **1.1 Scope**

This appendix contains information on each data Field on the Occurrence Report (OR), including the kind of data that should be entered in the Field to provide quality and consistency. Quality data will make it easier to retrieve and use statistics and lessons learned from the database. The PC ORPS software instructions are also included for each Field.

### **1.2 General**

When possible, avoid the use of plant-specific terms and acronyms. When using an acronym or initial for the first time, always spell it out, followed by the acronym in parentheses. Provide a brief description of a plant-specific item when the item is not common to industry.

ORs should contain sufficient information about the facility, its operation, the event or condition being reported, and its significance, to facilitate action by those personnel not familiar with the details of the facility, equipment, or procedures.

To remove data from some Fields in PC ORPS, place the cursor at the beginning of the Field and press the CTRL and END keys together. Using the space bar or DELETE key to remove data will not always work.

Numbers on the following instructions correspond with numbers used on the ORPS computer software program. Some Fields are not numbered and only a title will precede the Field information.

When completing an OR, it is important to remember that while Fields 1 - 19, 25, and sometimes 24 are required entries for the Notification Report, all Fields are available for entry of information. All information known at the time of the occurrence report preparation should be documented in the appropriate Fields.

NOTE: All instructions are based on the information in DOE Manual 232.1-1.



### **1.3 Guidance - General Information Fields**

#### Name of Facility

*(Required on all reports.)* Enter a code or facility acronym for the facility where the occurrence took place. PC ORPS users enter the facility code or select F2 to see a facility codes menu. Once the facility code is entered, ORPS will automatically generate the name of the laboratory, site, or organization. To add new facility acronyms, contact the ORPS hotline.

#### Facility Function

*(Required on all reports; enter only one.)* Enter the number identifying the type of facility or the primary activity/function performed by the facility at the time of the occurrence. For any facility, typically only one or two functions would be involved for all ORs. For example, if a traffic accident occurs that is reportable in accordance with DOE Manual 232.1-1 for a facility where the primary activity is "tritium activities," the function should be listed as "tritium activities," not "balance of plant." "Balance of plant" should only be used for those facilities whose function is to support other facilities (e.g., a power department, security, or bus and rail transportation.) Contact your DOE Facility Representative for guidance. Possible entries follow:

- a. Plutonium Processing and Handling
- b. Special Nuclear Material (SNM) Storage
- c. Explosives
- d. Uranium Enrichment
- e. Uranium Conversion/Processing and Handling
- f. Irradiated Fissile Material Storage
- g. Reprocessing
- h. Nuclear Waste Operations
- i. Tritium Activities
- j. Fusion Activities
- k. Environmental Restoration Operations
- l. Category "A" Reactors
- m. Category "B" Reactors
- n. Solar Activities
- o. Fossil and Petroleum Reserves
- p. Accelerators
- q. Balance of Plant

#### Name of Laboratory, Site, or Organization

*(Required on all reports. No action required.)* Generated by the ORPS host computer when report is successfully transmitted.



Facility Manager/Designee

*(Required on all reports. No action required.)* Enter the name, title, and telephone number of the responsible Facility Manager or designee who approved transmittal of the report. A signed hard copy approval should be maintained for reports transmitted to ORPS by persons other than the Facility Manager or designee.

Originator/Transmitter

*(Required on all reports.)* Enter the name (limited to 26 characters), title (limited to 36 characters), and phone number (limited to 10 characters) of the person originating and transmitting the report. This information must be re-entered on successive reports. If ORPS is being used, this information is automatically generated by the computer when the report is transmitted.

Authorized Classifier (AC)

*(Required on all reports for facilities that may produce classified information; otherwise optional, 26 characters.)* NOTE: When setting up your facility table in PC ORPS, you will need to determine whether your facility has the potential to generate classified information. If your facility does have that potential, this Field will appear on every report. Enter the name of the AC who reviewed the report and the date of the review (use MM/DD/YY date format). For a report submitted via PC ORPS, this signifies that all classified information has been removed. Under no circumstances should classified information be entered onto the ORPS database. This Field must be updated on subsequent reports.

**Field 1**      Occurrence Report Number

*(Required on all reports.)* This is a unique designator generated automatically by ORPS on the host computer when the notification report is transmitted. PC ORPS will show a temporary OR number in this Field until the report is transmitted, at which time the permanent OR number is assigned.

**Field 2**      Report Type and Date

*(Required for all Notification, Update, and Final Reports.)* Enter an "X" in the appropriate block to identify the type of report being transmitted (Notification, Update, or Final). Indicate an Update Report when an occurrence is recategorized. Note that the ORPS logic causes the following report restrictions.

- The first Update Report cannot be created if a Notification Report has not been transmitted.
- For hard-copy reports, list all dates. For a Final Report, this block must show the date the Final Report is submitted and the dates the Notification Report and latest Update Report were submitted.

Note: The report date reflects the date the report was submitted, not the date



that the report was started.

When canceling an Occurrence Report, indicate a report type of Final Report.

**Field 3**      Occurrence Category

*(Required on all reports, 1 character.)* Indicate which category has been determined for the occurrence. Only one category can be selected. Possible entries follow.

- E = Emergency
- U = Unusual
- O = Off-Normal
- C = Canceled

When upgrading or downgrading the event after transmission of the Notification Report, enter the new category here and then document the change with the new categorization date and time in the "Immediate Actions Taken and Results" Field (Field 19). A justification for the change is also necessary and should be included in the "Evaluation by Facility Manager" Field (Field 24).

When canceling an OR, check the blocks under Report Type for Final Report. Canceled reports must be finalized and go through the same approval process as all other ORs; however, Fields 20 through 33 are not required. Because it is necessary to explain why the report is being canceled, this information should be entered in Field 24. Upon signature of the DOE facility representative and DOE-HQ Program Manager, the report will be removed from the active database. If you wish to include canceled reports in your search, select #10 from the Search Menu and enter a + C.

**Field 4**      Number of Occurrences

*(Required on all reports.)* This Field will initially be "1".

If the criteria specified for Roll-Up Reports for Off-Normal Occurrences is met, this Field must be incremented with each new occurrence included.

Original Occurrence Reports

For Roll-Up Reports with an approved Final Report, enter the Occurrence Report number from the original occurrence that has an approved Final Report.

**Field 5**      Division/Project

*(Required on all reports, 36 characters, no spell check.)* Identify in full the project or contractor organizational unit responsible for the facility at which the occurrence took place.





**Field 6** DOE Secretarial Office  
(Required on all reports, 2 characters.) Identify the DOE Secretarial Office to which this facility is operationally responsible. Only one Secretarial Office can be selected. If the facility is operationally responsible to more than one Secretarial Office, enter the Secretarial Office that is most directly involved in the specific work activity in progress at the time of the occurrence. Possible entries are:

DP = Defense Programs  
EE = Energy Efficiency and Renewable Energy  
EH = Environment, Safety and Health  
EI = Energy Information Administration  
EM = Environmental Management  
ER = Energy Research  
FE = Fossil Energy  
HR = Human Resources and Administration  
NE = Nuclear Energy  
NN = Nonproliferation and National Security  
RW = Civilian Radioactive Waste Management

**Field 7** System, Building, or Equipment  
(Required on all reports, 80 characters, no spell check.) Identify all systems, equipment, or buildings involved in the occurrence. In the case of component failures, the component manufacturer, model number, and size should be provided. The most significant items should be listed here. For example, electrical transformer model xxx, Bldg. 101, emergency power. Additional information can be provided in the "Description of Occurrence" (Field 16).

**Field 8** Unclassified Controlled Nuclear Information (UCNI)  
(Required on all reports, 1 character.) Indicate whether UCNI is included in this report. Enter a "Y" for Yes or an "N" for No. This determination must be made by a Reviewing Official. Where appropriate UCNI guidance is not available, a Reviewing Official shall make a Preliminary Review Determination that the report may contain UCNI or does not contain UCNI. While UCNI can be transmitted, classified information **should never** be transmitted to ORPS. If this Field is marked "Y", then the Authorized Classifier information must be completed before the report is transmitted.

**Field 9** Plant Area  
(Required on all reports, 20 characters, no spell check.) Enter the name of the site-specific plant area where the occurrence took place. For example, F-Area, K-Reactor, offsite.



- Field 10** Date and Time Occurrence Was Discovered  
(Entered on a Notification Report only; cannot be changed on PC ORPS after transmission of Notification Report. MM/DD/YY date format and HH:MM time format.) Enter the date and time when the facility staff discovered the occurrence or condition being reported. See Section 1.0 for guidance on determining the time of discovery.
- Field 11** Date and Time Occurrence Was Categorized  
(Entered on a Notification Report only; cannot be changed on PC ORPS after transmission of Notification Report. MM/DD/YY date format and HH:MM time format.) Enter the date and time when the Facility Manager determined the event or condition constituted a Reportable Occurrence and determined its category (i.e., Emergency, Unusual, or Off-Normal). For occurrences that are upgraded or downgraded in category, the latest recategorization time and date should be documented in the "Immediate Actions Taken and Results," Field 19, and included in an Update Report.
- Field 12** DOE Notification  
(Required on all reports for Emergency and Unusual ORs, MM/DD/YY date format and HH:MM time format.) Enter the date and time when the DOE-HQ EOC was notified. Enter the name (26 characters maximum) of the DOE-HQ Coordinator. If a date or time is entered, a name and organization must be entered here. In the case of subsequent notifications due to a change in category level, enter the latest date and time of notification. Document previous notifications under "Immediate Actions Taken and Results," Field 19.
- Field 13** Other Notifications  
(Optional, but recommended.) Enter the date(s), time(s), name(s), and organization(s) of the DOE Facility Representative and all mandatory state and local officials or other agencies who were notified (26 characters maximum for name and 8 characters maximum for organization). If there are more than five notifications or new notifications because of an upgrade or downgrade in category, document them in the "Immediate Actions Taken and Results," Field 19.
- Field 14** Subject/Title  
(Required on all reports, 140 characters, no spell check, no word wrap.) Enter a brief title or description (i.e., 20 words or less) that best details the nature, cause, and result of the occurrence. In subsequent reports, this should not change from the Notification Report. The title should describe the occurrence, not merely restate the exceeded criteria or nature of occurrence, or state that this is an unclassified version of a classified report. If the occurrence involves an Unresolved Safety Question, the acronym "USQ" shall be placed at the end of the Field. If the report is a Roll-Up



Report, include the term "Roll-Up" in the subject/title.

**Field 15**

Nature of Occurrence

*(At least one required on all reports, as many as three selections can be made, two characters in each code.)* Enter the nature of the occurrence code from the list in Table C-1. Always list the criteria that determined the highest category level first. List all that are applicable and appropriate.

Note: Only one entry from each category is allowed. ORPS will not accept two codes from the same category (i.e., 1A and 1C).

**Field 16**

Description of Occurrence

*(Required on all reports, word processing item, spell check and word wrap, no character limit, lines can only be 60 characters in length.)* The description should begin with a concise, objective summary paragraph of what happened, when and where it happened (i.e., chronological sequence of events), and the consequences of the event.

The writer should keep in mind that the ORs are for the entire DOE community as well as the public. The description should contain some background information concerning the facility or equipment involved. A brief description of the function/purpose of the facility is usually helpful. All reports should be written so that individuals unfamiliar with facility operations can readily understand the occurrence and its consequences. To the extent possible, avoid the use of plant-specific terms and acronyms.

Writing Strategies for the *Description of Occurrence*:

- Try to include the most significant information within the first 10 lines because the first 10 lines of the description appear on the summary report.
- Begin the description with a summary/introductory sentence that contains what happened, how the occurrence was identified, and what was observed.
- Follow the summary/introductory sentence with all pertinent facts in chronological order (i.e., who, what, when, where, and how).
- Write concisely and clearly, focusing on facts.
- Include details such as size of contaminated area and contamination levels.
- Provide enough detail to create an accurate and complete visual image of the occurrence so that persons unfamiliar with the facility or operation can understand



what happened.

- Tell the complete story.
- Explain any reporting anomalies, such as upgrades or downgrades, or errors or changes that have occurred since the initial notification and categorization.

When an action is discussed, it should be clearly stated why that action occurred or was taken (i.e., required by procedure, personnel were trained to do it that way, or automatic/designed feature). If an action is mentioned, but not explained, the result is an unanswered question in the reader's mind.

The type of information to be provided in the description includes, but is not limited to, the following:

- Method of discovery
- Component failures and the failure modes
- Personnel errors, including the type and result of the error
- Procedure problem encountered
- Response of any automatic or manual safety systems and the signals that initiated and terminated their operation
- Duration of any failures
- Operator actions that affected the course of events
- Loss of any safety equipment

When photos, sketches, or drawings are appropriate for clarification, reference those items as attachments to the report and explain how they can be obtained.

**Field 17** Operating Conditions of Facility at Time of Occurrence  
(Required on all reports, 140 characters, no spell check, no word wrap.) Describe the operational status of the facility or equipment at the time of the occurrence, including pertinent temperatures, pressures, or other parameters necessary for evaluation of the occurrence and its consequences. "Normal Operations" is not sufficient. The author may know what this means, the reader may not. If this information is not applicable (i.e., had no bearing on cause or consequences), enter



"Does not apply."



**Field 18** Activity Category

*(Required on all reports.)* Enter one of the following activities that best describes the specific ongoing activity at the time of the occurrence. (Maintenance work, even though performed during a shutdown of the facility, should be coded as "maintenance" not "shutdown".)

1. Construction
2. Maintenance
3. Normal Operations
4. Startup
5. Shutdown
6. Facility/System/Equipment Testing
7. Training
8. Transportation
9. Emergency Response
10. Inspection/Monitoring
11. Facility Decontamination/Decommissioning

Note: "Normal Operations" should be used if none of the other selections fits the on-going activity at the time of the occurrence.

**Field 19** Immediate Actions Taken and Results

*(Required on all reports, word processing Field, spell check and word wrap.)*  
Describe the immediate or remedial actions taken to return the facility, system, or equipment item to service, or to correct or alleviate an anomalous condition. Also record the results of those actions. These should only include those actions taken in the short term (i.e., initial hours) to correct or alleviate the condition. It is advisable to list immediate actions in sequential order to help the report reader better understand what took place. Other long-term actions, such as ordering and installing a new valve, should be stated in the later "Corrective Action" section of the report.

Include actions that should be taken immediately by other plants/operations to prevent a similar event or condition, or recommendations for further investigation and analysis.

For occurrences that were upgraded, downgraded or canceled, the previous category, categorization time, and notifications should be documented here.

If more than five notifications were made in Field 13, include those notifications at the end of this Field, in the following format:



Additional notifications:

<u>Date</u>	<u>Time</u>	<u>Name</u>	<u>Org</u>
01/25/94	1430	J. D. Smith	DOE

**Field 20**    Direct Cause

*(Required for Final Reports only; enter code from Table C-2.)* The cause that directly resulted in the occurrence. For example, in the case of a leak, the direct cause could have been the failure in the component or equipment that leaked. In the case of a system misalignment, the direct cause could have been operator error in the alignment. Enter only one direct cause for the occurrence from Table C-2.

There is a *DOE Root Cause Analysis Guidance Document* (DOE-NE-STD-1004-92) dated February 1992 for reference on determining causes. Facilities and/or sites should develop specific procedures for root cause determination.

**Field 21**    Contributing Cause

*(Not required for any report, may choose up to three codes, enter code from Table C-2.)* The cause that contributed to the occurrence but, by itself, would not have caused the occurrence. For example, in the case of a leak, the contributing cause could be lack of adequate operator training in leak detection and response, resulting in a more severe event than would have otherwise occurred. In the case of a system misalignment, the contributing cause could be excessive distractions to the operators during shiftchange, resulting in less than adequate attention to important details concerning the current system alignment.

Note: Only one contributing cause code can be chosen from each group (i.e., if 1A is selected, then you cannot select another code from Group 1).

**Field 22**    Root Cause

*(Required for Final Reports, enter only one code from Table C-2.)* The root cause is the cause that, if corrected, would prevent recurrence of this and similar occurrences. The root cause may not apply to a single occurrence only, but can also have generic implications for a broad group of possible occurrences, and it is the most fundamental aspect of the cause that can logically be identified and corrected. There may be a series of causes that can be identified, one leading to another. This series shall be pursued until the most fundamental, correctable cause (that can be controlled by management) has been identified.

For example, in the case of a leak, the root cause could be a failure of management to ensure that maintenance is effectively managed and controlled. This cause could have led to the use of improper seal material or missed preventive maintenance on a



component, which ultimately led to the failure. In the case of system misalignment, the root cause could be failure in the training program, leading to a situation in which operators are not fully familiar with control room procedures and are willing to accept excessive distractions.

**Field 23** Description of Cause

*(Required on Final Reports, word processing Field, word wrap, spell check.)* This is probably the most difficult part of the OR to compile and should be given due attention. This Field is used to provide the rationale and pertinent information that the Facility Manager used in determining the cause codes selected in Fields 20, 21 and 22. Discuss the cause of the occurrence including direct, contributing, and root causes. While not a repeat of the occurrence description, it should address the cause and all factors leading to the occurrence. Discuss in the same order as presented in the Cause Code section of the report (i.e., direct cause first, contributing cause(s) second, root cause last). Each cause identified must be discussed in sufficient detail to enable the reader to understand the analysis process and how a particular cause was determined. A detailed description of the corrective action(s) is required to demonstrate that the identified action(s) will adequately address the cause(s) of the problem. For example, if a procedural deficiency was identified, it would not be sufficient to state simply that the procedure was reviewed. An explanation is required regarding why the deficiency was not identified during the review and approval process (to the extent possible); how the procedure was subsequently revised; and how the revision, in conjunction with any other corrective actions, addresses the cause of the problem. When appropriate, reference additional cause analysis documentation and where, and from whom, it is available.

The method used to determine causes should be specified here. This may include, but is not limited to, barrier analysis, Management Oversight Risk Tree (MORT), engineering judgment, site-specific analysis methods, change analysis, and causal factor analysis.

The first 10 lines of the description of cause are included in the summary report. Try to include the most pertinent information within the first 10 lines of the text.

**Field 24** Evaluation by Facility Manager

*(Required on Update and Final Reports and if Field 25 is answered that further evaluation is required before further operation, word processing Field, spell check, word wrap.)* With the information available, the Facility Manager shall provide an evaluation of the occurrence and its effect or possible effect on the plant, system, or program. If there are no effects, or they are minimal, it should be stated here.

All significant information obtained during fact-finding should be addressed, including



any or all of the following:

- Layouts, maps, or drawings of affected areas/processes
- Chronological log of events and actions taken
- List of personnel with knowledge of the event
- Photographs taken
- Description and location of physical evidence obtained
- Personnel statements
- Copies of shift logs pertinent to the event
- Copies of computer printouts or similar information related to the event
- Other pertinent information needed to provide a clear understanding of the event

In subsequent Update and Final Reports, the Facility Manager may supplement the initial Update Report evaluation with additional entries.

**Field 25** Is Further Evaluation Required?

*(Required for Update and Final report, choose "Y" for yes, or "N" for no). If "N" is chosen, no other entries are required. If "Y" is chosen, either "Y" or "N" must be checked in the section entitled, "Is Evaluation Required Before Further Operation?"*

It is anticipated that this Field will be "Y" for any Update Reports, indicating that further evaluation is necessary and the Final Report is not ready to be issued.

If further evaluation is required before further operation (i.e., both yes blocks checked) enter the name of the person or organization that will perform the evaluation and the date the evaluation will be completed, if applicable. An entry in Field 24 (*Evaluation by Facility Manager*) is required if both "Y" blocks are checked.

On Final Reports, "N" must be chosen, as all evaluations must be complete before submitting the Final Report. The other three items in this Field should be blank on the Final Report.

**Field 26** Corrective Actions

*(Required on Final Reports. Dates are entered in a separate Field than text. Text is a word processing Field, with spell check and word wrap. All corrective actions are automatically numbered.)* List all actions identified to correct the problem, which, when completed, will prevent recurrence. For example, if the cause is a personnel error, the corrective action must address the fact that personnel corrective action was taken. When appropriate, the specific action should be listed.

The reader must be able to relate a corrective action to the cause(s) identified in Fields 20, 21, and 22.



Well-formulated corrective actions contain a strong active verb such as change or repair. Weak verbs such as review, evaluate, and study should be avoided. Requesting or recommending does not complete an action. The corrective action as described must complete that action.

Corrective actions do not have to be complete in order to issue a Final Report, only identified and scheduled.

Dates for completion should be timely, but realistic.

For similar occurrences documented in an existing approved Final Report, the corrective action narrative should state, "The corrective actions in this occurrence are the same as those stated in the original approved Final Report" and provide the number of the original approved Final Report. The corrective action target date will be the latest target date from the referenced occurrence.

Note: Final Reports can be transmitted with the actual completion date of corrective actions blank. The Facility Manager will only be able to add the actual corrective action completion date after the DOE Facility Representative and the DOE-HQ Program Manager approve the Final Report. Corrective actions must be updated on ORPS when the action is complete or the target completion date is extended. To extend a target completion date, written justification must be entered onto ORPS by the Facility Manager/Designee.

**Field 27** Impact on Environment, Safety, and Health

*(Required on Final Reports, word processing Field, spell check, and word wrap.)*

Describe the impact of the occurrence on the environment, safety, and health of workers, the public, and onsite and offsite environs. This should include amounts and types of hazardous or radioactive materials released and levels and types of contamination, exposure levels of workers and the public, and known or projected environmental, safety, and health impacts. The evaluation must be carried out to the extent necessary to fully assess the safety consequences and safety margins associated with the occurrence.

For occurrences related to nuclear safety, an assessment of the occurrence under alternative conditions also must be included if the occurrence could have been more severe (e.g., the facility would have been in a condition not analyzed in the Safety Analysis Report) under reasonable and credible alternative conditions such as power level or operating mode.



- Field 28** Programmatic Impact  
(Required on Final Reports, word processing Field, spell check, and word wrap.)  
Describe the impact of the occurrence on the program or project affected. This could be a loss of data, loss of plant availability for a specified period, additional costs, schedule delays, or other measurable consequences of the occurrence. Lost work time, such as when a facility or the entire plant is evacuated, should be included in this section.
- Field 29** Impact Upon Codes and Standards  
(Required on Final Reports, word processing Field, spell check, and word wrap.) If the occurrence affects the requirements of national codes and standards, program standards, or DOE Orders, a statement regarding the adequacy of the codes or standards should be provided, along with any recommended changes. It is not necessary to state that a code or standard was violated.
- Field 30** Lessons Learned  
(Required on Final Reports, word processing Field, spell check, and word wrap.)  
Include any lessons that others might learn from the occurrence which could be of importance to other facility operators or that should be addressed in personnel training or facility procedures. Consequences of the occurrence and steps taken to alleviate those consequences should not be described here unless they contribute to an understanding of the occurrence. (See Section 6.0)
- Field 31** Similar Occurrence Report Numbers  
(Required on Final Reports, 40 characters on each line, enter only one OR number per line, automatically numbered when transmitted. [Note: ALL ORs contain 5 dashes.])  
Similar occurrences or recurring events can be found by searching the ORPS database. Search for reports from the entire DOE complex, not just one site. Also, identify any known commercial reactor Licensee Event Reports (LER) or other related documents that describe similar occurrences. This item identifies, if recognized, occurrences that might suggest generic problems.
- Field 32** User-Defined Field #1.  
(Optional, 2 lines of up to 62 characters per line.) This Field can be used by the Facility Manager to store facility-specific information (e.g., a cross reference to performance indicator data).
- Field 33** User-Defined Field #2.  
(Optional, 2 lines of up to 62 characters per line.) This Field can be used by the Facility Manager to store additional facility-specific information (e.g., a cross reference to a site-specific number or name).



**Fields 34 and 35 are completed as required on the ORPS Host Computer. They are not completed in PC ORPS.**

**Field 34** DOE Facility Representative Input  
(Required only on rejected Final Reports.) The DOE Facility Representative or designee should provide his or her evaluation of the occurrence, including an evaluation of the initial and proposed corrective actions and all follow-up by the contractor, and should describe any other actions that DOE has taken since the occurrence. The DOE Facility Representative may supplement such information with subsequent additional entries, as appropriate. If ORPS is being used, the DOE Facility Representative's name and the date will automatically be entered by the computer.

This Field must be completed by the DOE Facility Representative to provide the contractor with a justification when an OR is rejected.

**Field 35** Program Manager Input  
(Required only on rejected Final Reports.) The Program Manager or designee should provide his or her evaluation of the occurrence, including any evaluation of the initial and proposed corrective actions and all follow-up, and should describe any other actions that DOE has taken since the occurrence. The Program Manager may supplement such information with subsequent additional entries, as appropriate. If ORPS is being used, the Program Manager's name and the date will be automatically entered by the computer. If a final report is being rejected, information in this Field will provide the basis for rejection.

**Field 36** Signatures  
(Required on Final Report only.) For Final ORs that are transmitted in hard copy (i.e., classified reports), all three signatures shall be on the hard copy report prior to distribution. In addition to the written signatures, the typed names and titles of the signatories shall be provided. If ORPS is being used, the Facility Manager's or designee's name, after transmitting the Final Report to the host computer, will automatically be provided with an indication of acceptance. The Final Report will then be available for the DOE Facility Representative and Program Manager, or their designees, to review and accept. Once all three individuals have accepted the report, it will automatically be available to all DOE elements for their use in analysis and trending.



**Table C-1 - Occurrence Codes** (sheet 1 of 3)

Nature of Occurrence Codes (Field 15)		
<u>Group 1:</u> <u>Facility Condition</u>	<u>Group 2: Environmental</u>	<u>Group 3:</u> <u>Personnel Safety</u>
1A Nuclear Criticality Safety	2A Radionuclide Releases	3A Occupational Illness/Injuries
1B Fires/Explosions	2B Release of Hazardous Substances/Regulated Pollutants/Oil	3B Vehicular/Transportation Accident
1C Safety Status Degradation	2C Hazardous Material Contamination	3C Safety Concerns
1D Loss of Control of Radioactive Material/Spread Contamination	2D Ecological Resources	
1E Vital Structure/System Component Degradation	2E Environmental Agreement/Compliance Activities	
1F Violation/Inadequate Procedures		
1G Unsatisfactory Surveillance/Inspections		
1H Operations		



**Table C-1 - Occurrence Codes** (sheet 2 of 3)

Nature of Occurrence Codes (Field 15)		
<u>Group 4: Personnel Radiation Protection</u>  4A Radiation Exposure  4B Personnel Contamination	<u>Group 5: Safeguards/Security</u>  5A Criminal Acts  5B Unaccounted for Classified Matter/Compromised Information  5C Substance Abuse  5D Intelligence Activities  5E Computer Equipment/Systems  5F Unplanned/ Unscheduled Outage of Site Security System  5G Demonstrations/Protests  5H Firearms  5I Other Security Concerns  5J Material Control and Accountability	<u>Group 6: Transportation</u>



**Table C-1 - Occurrence Codes** (sheet 3 of 3)

Nature of Occurrence Codes (Field 15)		
<p><u>Group 7:</u> <u>Value Basis Reporting</u></p> <p>7A Cost Based</p> <p>7B Defective Item, Material, or Service</p>	<p><u>Group 8:</u> <u>Facility Status</u></p> <p>8A Facility/Process Securing/Curtailing Operations</p> <p>8B Facility/Process Shutdown Extension</p> <p>8C New Facility/Process Startup Delay</p>	<p><u>Group 9:</u> <u>Nuclear Explosive Safety</u></p>
<p><u>Group 10:</u> <u>Cross Categories</u></p> <p>10A Collectively Significant Related Occurrences</p> <p>10B Near-miss Occurrences</p> <p>10C Potential Concerns/Issues</p>		



**Table C-2 - Occurrence Cause Codes** (sheet 1 of 1)

<b>Cause Codes (Fields 20 - 22)</b>	
<u>Equipment/Material Problem</u>  1A Defective or failed part 1B Defective or failed material 1C Defective weld, braze, or soldered joint 1D Error by manufacturer in shipping or marking 1E Electrical or instrument noise 1F Contaminant 1G End of life failure	<u>Training Deficiency</u>  5A No training provided 5B Insufficient practice or hands-on experience 5C Inadequate content 5D Insufficient refresher training 5E Inadequate presentation or materials
<u>Procedure Problem</u>  2A Defective or inadequate procedure 2B Lack of procedure	<u>Management Problem</u>  6A Inadequate administrative control 6B Work organization/planning deficiency 6C Inadequate supervision 6D Improper resource allocation 6E Policy not adequately defined, disseminated, or enforced 6F Other management problem
<u>Personnel Error</u>  3A Inattention to detail 3B Procedure not used or used incorrectly 3C Communication problem 3D Other human error	<u>External Phenomenon</u>  7A Weather or ambient condition 7B Power failure or transient 7C External fire or explosion 7D Theft, tampering, sabotage, vandalism
<u>Design Problem</u>  4A Inadequate work environment 4B Inadequate or defective design 4C Error in equipment or material selection 4D Drawing, specification, or data errors	<u>Radiological/Hazardous Material Problem</u>  8A Legacy contamination 8B Source unknown