

UPF Safety Task Analysis and Risk Reduction Talk/Job Hazard Analysis Program (STARRT/JHA) Process



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Implements Quality Requirements  
 None  BNI  CNS  BNI and CNS

## REVISION LOG

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<ul style="list-style-type: none"> <li>• These changes are in response to the following Condition Reports:               <ul style="list-style-type: none"> <li>○ <b>Section 3.5, JHA Change Notice</b>—Deleted this section entirely in response to:                   <ul style="list-style-type: none"> <li>• CR 02701, <i>Finding #2—Number of Job Hazard Analysis Change Notices (JCNs) Issued Against One Revision of UPF Construction Hazard Tree Exceeds Allowable Number (ISR-QA-801768-FY20-035)</i>.</li> <li>• CR 02702, <i>Finding #3-JHA Change Notice (JCN) Not Signed by UPF ES&amp;H Manager or Designee (ISR-QA-801768-FY20-035)</i>.</li> <li>• CR 02705, <i>Recommendation #2—Level of Approval of JHA and JHA Change Notice Inconsistent (ISR-QA-801768-FY20-035)</i>.</li> <li>• CR 02706, <i>Recommendation #3—JCN Responsibilities of ES&amp;H Manager Not Listed in Procedure (ISR-QA-801768-FY20-035)</i>.</li> <li>• CR 02707, <i>Recommendation #4—Procedural Requirements for Issuance of Job Hazard Analysis Change Notice (JCN) Need Clarification (ISR-QA-801768-FY20-035)</i>.</li> </ul> </li> <li>○ <b>Section 3.8, STARRT Card Evaluation</b>—Deleted Sections 3.8.1 and 3.8.2 and added “Then the Responsible Superintendent/STE shall provide the STARRT card to ES&amp;H” to Section 3.8 in response to CR 02700, <i>Finding #1-UPF STARRT Card Feedback Log Not Maintained As Required (ISR-QA-801768-FY20-035)</i>.</li> <li>○ <b>Section 4.0, Records</b>—Removed CFN-1262, <i>UPF STARRT Card Feedback Log</i> and CFN-1285, <i>UPF Construction JHA Change Notice</i> from the records table in response to CR 02700.</li> <li>○ Revised a form in response to CR 02704, <i>Recommendation # 1—Inconsistent Requirement for Minimum Participation for JHA Work Activity Walkdown (ISR-QA-801768-FY20-035)</i>.</li> <li>○ Deleted a form in response to CR 02700.</li> </ul> </li> <li>• The following forms changed with this revision:               <ul style="list-style-type: none"> <li>○ CFN-1158, <i>UPF Job Hazard Analysis</i>, was revised.</li> <li>○ CFN-1262 was deleted. <u>NOTE:</u> <i>Other acceptable processes (e.g., Craft Based Leadership and direct feedback during STARRT meeting) are being used for craft feedback, so the log is not necessary.</i></li> <li>○ CFN-1285 was deleted.</li> <li>○ UCN-23464, <i>UPF Startup STARRT Card</i>, is new.</li> </ul> </li> <li>• An evaluation was performed in Revision 5 of this Command Media, as indicated by the checkbox on the signatures page. Quality requirements are tracked in the Programmatic Requirements Management System (PRMS).</li> <li>• Other changes include:               <ul style="list-style-type: none"> <li>○ Global—updated to include Startup.</li> <li>○ <b>Section 3.2.3</b>, Deleted the first sentence.</li> <li>○ <b>Section 3.3.4</b>, Deleted “on CFN-1158” from the end of the sentence.</li> <li>○ Updated references.</li> <li>○ Updated acronyms.</li> <li>○ Editorial changes.</li> </ul> </li> </ul>	
Revision 5	<input checked="" type="checkbox"/> Intent <input type="checkbox"/> Non-intent
<ul style="list-style-type: none"> <li>• This revision incorporates the changes identified in and supersedes PRCN-Y17-95-64-823-R04-01, Rev. 4.</li> <li>• This revision incorporates the Pen and Ink Change issued on 03/03/2020.</li> </ul>	

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- An evaluation determination has been performed confirming that this Command Media implements BNI quality requirements as tracked in the Programmatic Requirements Management System (PRMS).
- The following form has been deleted from this procedure:
  - CFN-1019, *UPF JHA Walkdown*
- Added UPF Startup Manager approval.
- Global inclusion of Startup Testing.
  - Editorial changes.

**Previous revisions on record**

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## 1.0 INTRODUCTION

Job Hazard Analyses (JHAs) that have been approved prior to the effective date of Revision 6 of this procedure do not require immediate revision in order to be compliant with this procedure. When existing JHAs are revised or the work activity (i.e., Construction Work Package (CWP), Startup Test/Operating Instruction) has a Change Request processed, the JHAs shall be updated using the hazard controls/mitigations defined in ML-CM-801768-A019, *UPF Construction Hazard Tree*, or ML-SU-801768-A001, *UPF Startup Hazard Tree*, as applicable to the work scope.

### 1.1 Purpose

This procedure defines the work process for developing, issuing, using, and revising JHA documentation at the Y-12 National Security Complex (Y-12) Uranium Processing Facility (UPF) construction site. This procedure also defines the methodology and requirements for the Safety Task Analysis and Risk Reduction Talk (STARRT) process.

This procedure focuses on the second and third functions of the Integrated Safety Management System (i.e., “Identify and Analyze Hazards” and “Develop and Implement Hazard Controls,” respectively).

The identification and analysis of work area hazards and the development of controls/mitigations to address the work area hazards during work are critical to the safe and successful performance of work on the UPF Project.

### 1.2 Scope

All direct and managed (i.e., subcontracted) UPF Construction and Startup employees shall participate in the JHA/STARRT process and use it as the primary tool for planning.

Requirements for Subcontractors performing activities are as described in the Supplemental Conditions of the contracting documents. Subcontractors may submit JHAs for work scopes to be performed; these work scopes will be formal contract submittals and the Subcontract Technical Representative (STR) will approve them after review by an Environment, Safety, and Health (ES&H) Representative and pertinent organizations.

This procedure applies to personnel who perform field work activities at the Y-12 UPF site using UPF CWPs generated in accordance with Y17-95-64-800, *UPF Construction Work Control Program*. This procedure also applies to Startup Testing in accordance with MNL-SU-801768-A001, *UPF Startup Test Program Manual*. The JHA and STARRT process shall be used to identify the potential task-specific ES&H hazards associated with UPF field work activities and to define the specific controls and/or actions required to eliminate or minimize the hazard risks.

## 2.0 RESPONSIBILITIES

*Assigned authorities/responsibilities described may be delegated to a designee(s).*

### 2.1 UPF Site Manager

The UPF Site Manager is responsible for ensuring that:

- This procedure is effectively implemented.
- Work activities comply with the requirements of this procedure.

### 2.2 UPF Field Engineer/STR/Startup Test Lead

The UPF Field Engineer (FE)/STR/Startup Test Lead (STL) is responsible for the following direct-managed work scopes:

- Coordinating with the Responsible Superintendent/Startup Test Engineer (STE) to determine members of the JHA Development Team beyond the required minimum
- Facilitating the revision of JHAs.

### 2.3 UPF ES&H Representative

The UPF ES&H Representative is responsible for:

- Coordinating with UPF Construction Superintendents, STLs, STEs, Craft, and FEs, to develop a list of hazard mitigations and controls for use in UPF JHAs.
- Ensuring hazard controls and mitigations are institutionalized and controlled in accordance with ML-CM-801768-A019 or ML-SU-801768-A001.

### 2.4 JHA Development Team

The JHA Development Team is responsible for:

- Reviewing the work scope, including the proposed methods of accomplishment.
- Participating in the physical walkdown of the work scope, or in a table-top review of the work scope in order to identify hazards.
- Being familiar with the jobsite, either by participating in the JHA walkdown, visiting the site prior to development of the JHA, or having general knowledge of the area.
- Contributing to the development of hazard controls/mitigations for each identified hazard.
- Participating, as needed, in the revision of JHAs.

### 2.5 UPF Responsible Superintendent/Craft Foreman/STE

The UPF Responsible Superintendent/Craft Foreman/STE is responsible for:

- Facilitating the JHA development process, including:
  - Assembling the JHA Development Team
  - Reviewing the work scope with the JHA Development Team
  - Performing either a physical walkdown or table-top review of the work scope with the JHA Development Team.

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- Documenting identified hazards associated with the work scope, and coordinating the development of hazard controls.
- Coordinating with the FE to determine members of JHA Development Team (beyond the required minimum) (Not applicable for Startup Test/Operating Instructions).
- Conducting the JHA Development Team's work area walkdown.
- Ensuring that—when work activities, scope, or work area conditions change to the extent that different or additional hazards are present, or existing controls are not effective—the work is suspended, the work area is placed into a safe condition, and the JHA is revised to properly identify and analyze the hazard and hazard controls are developed.
- Ensuring that the STARRT process is implemented.
- Ensuring that completed UCN-23162, *Safety Task Analysis and Risk Reduction Talk (STARRT) Card*, or UCN-23464, *UPF Startup STARRT Card*, forms are maintained in accordance with procedural guidance.
- Reviewing and signing all applicable STARRT cards or assigning a designee to do so.

### 3.0 PROCESS

The following sections describe the process for review of the work scope, identification of the hazards associated with the work scope, and the process and requirements for defining the controls in JHA documentation to mitigate the risk for the identified hazards. Revision of the JHA documentation and the process for use of the STARRT card are also presented.

#### 3.1 Review Work Scope

The FE/STR/STL is responsible for the items listed in **Section 3.1.1** through **Section 3.1.4**.

- 3.1.1 Review the work scope in CFN-1016A, *UPF Work Package Scope and Approvals*, and review the JHAs referenced on CFN-1021A, *Pre/Mid-Job Evaluation and Briefing*, or the Startup Test/Operating Instruction to ensure that:
- The work scope is described in sufficient detail, including work scope boundaries.
  - It is known how work will be performed, as well as who will be performing the work, to allow for hazard identification.
- 3.1.2 If hazards/controls are not covered by an existing JHA, assemble a JHA Development Team and review the work scope. Ensure that the work scope boundaries and work task, including work location(s), starting point, and ending point, are reviewed with the team members.
- 3.1.3 At minimum, the following personnel shall be on the JHA Development Team:
- ES&H representative(s)
  - Responsible Superintendent/STE
  - FE/STL for direct-managed work scope

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- STR for subcontracted work
- Discipline-specific Craft representative (e.g., pipefitter, electrician, boilermaker, depending on work scope)
- Other support disciplines and/or subject matter experts, as appropriate to work scope (e.g., Radiological Control Organization representative for work in contaminated/radiological areas).

3.1.4 Based on work scope and absence of existing JHAs or other hazard control documents (e.g., UCN-23350, Exposure Control Plan), determine if a physical walkdown or a table-top review of the work scope must be performed.

### **3.2 Identify and Analyze Hazards**

3.2.1 IF the JHA Development Team is in agreement that a physical walkdown is not required or feasible, THEN perform a table-top review of the work scope's anticipated work activity hazards.

3.2.2 The Responsible Superintendent/STR/STL shall assemble the JHA Development Team at the designated work location to perform a walkdown or assemble the team in another location to perform the table-top review.

3.2.3 For CWPs and Startup activities, document the walkdown/evaluation on CFN-1021A, and have the JHA Development Team sign as applicable.

### **3.3 Develop Hazard Controls**

JHAs may be documented using CFN-1158, *UPF Job Hazard Analysis*, or an approved electronic application (i.e., TEAMWorks, Q4 Safety). To maintain consistency, JHAs must be generated using hazard controls/mitigations defined in ML-CM-801768-A019 or ML-SU-801768-A001.

The JHA Development Team is responsible for the items listed in **Section 3.3.1** through **Section 3.3.9**.

3.3.1 Apply the hierarchy of controls is as follows:

- Elimination/substitution (e.g., less hazardous substance)
- Engineering control (e.g., glove boxes, ventilation controls)
- Administrative control (e.g., barricades, postings)
- Personal protective equipment.

3.3.2 If Hazards/Controls are present that are not covered by an existing JHA or the respective Hazard Tree, then perform one of the following, as applicable:

1. Issue a task-specific JHA.
2. Revise an existing JHA.
3. Revise the Construction/Startup Hazard Tree.



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- 3.3.3 Populate the JHA on CFN-1158, or Q4 Electronic Application (see **Appendix B, *Electronic Process Flow Chart***), by entering Work Activities and corresponding hazard controls/mitigations defined in ML-CM-801768-A019 or ML-SU-801768-A001. Hazard controls may include, but are not limited to:
- Specialized training needed.
  - Permits required.
  - Need for a competent or qualified person.
  - Specialized tools.
  - Work methods and scheduling/sequencing of work tasks, including hold points.
- 3.3.4 When complete, obtain signatures of all JHA Development Team members on the JHA developed.
- 3.3.5 Site Manager signature authority has been delegated to the Responsible Superintendent for approval of JHAs. Refer to COI-CM-801768-A087, *Delegation of Construction Site Manager, 10 CFR 851 Signature Authority for Job Hazard Analysis (JHA)*.
- 3.3.6 Forward the approved JHA to the Document Management Center (DMC) for processing. Not applicable for Q4 Electronic Application.
- 3.3.7 Ensure the work crew and support discipline personnel are briefed on the JHA prior to starting work, and ensure all personnel document the briefing on the JHA by signature/date on the CFN-1251, *UPF Construction Attendance Sheet*, or on Q4 electronically generated JHA forms. The initial Pre-Job Briefing (CFN-1021A) and JHA Briefing may utilize the same CFN-1251. Multiple JHAs may be referenced on CFN-1021A to ensure all hazards are properly identified and mitigated.
- 3.3.8 Ensure any new members of the work crew and support discipline personnel are briefed on the JHA prior to starting work, and ensure briefed personnel sign and date CFN-1251 or Q4 electronically generated forms. for the current revision of the JHA.
- 3.3.9 JHAs will be available in InfoWorks, or physical copies can be provided by the Field DMC to be used for review, pre-job briefs, etc. For JHAs developed with Q4 Electronic Application, the forms are available within the Q4 Application and may be printed out as required.
- 3.4 Revise JHAs**
- 3.4.1 When work activities or scope of work change to the extent that additional hazards may be present, complete the following:
- If the changes directly impact current work activities, suspend work and place the work in a safe condition.
  - Revise the JHA in accordance with **Section 3.2, *Identify and Analyze Hazards***, and **Section 3.3, *Development Hazard Controls***.
- 3.4.2 Obtain signature concurrences for the revision of the JHA.

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- 3.4.3 Forward the revised JHA to the UPF DMC for processing. Not applicable to JHAs revised within Q4 Electronic Application (Not Applicable to Startup).
- 3.4.4 Once JHAs developed with Q4 (see **Appendix B**) are approved in the Electronic Application, print out the revised JHA from the electronic application and place into the applicable package.
- 3.4.5 Provide the work crew with a secondary briefing on the revised JHA prior to work, and ensure that personnel document the briefing on a new CFN-1251, or on the electronically generated JHA forms.

### **3.5 Implement STARRT**

- 3.5.1 Prior to beginning work activities each day or after an extended break or interruption (e.g., shift change, weekend), perform the following:
- Perform a walkdown and review the work location with involved personnel.
  - Review area hazards to ensure that they are identified and hazard controls/mitigations are in place to eliminate/reduce them.
  - Ensure that there are no new hazards unidentified and uncontrolled by the approved JHA.
- 3.5.2 Using UCN-23162, perform the following:
- Conduct a STARRT Card Briefing with the work crew and support disciplines.
  - Resolve any issues/concerns with the work crew.
  - List and discuss the scope of work, anticipated hazards, and controls/mitigation measures for the work to be performed
  - Ensure that personnel document attendance in the **Employee** section of UCN-23162.
- 3.5.3 Conduct appropriate STARRT briefings when any of the following conditions exist:
- The work area changes.
  - Personnel with different classifications will be working in close proximity.
  - Differing types of work are performed in close proximity.
  - The work activity changes.
  - The Responsible Superintendent deems it necessary.

UCN-23162 and UCN-23464 should be turned in at the end of each shift at the designated collection points. The end of shift review/de-briefing section must be completed before UCN-23162 or UCN-23464 are submitted.

### **3.6 Startup Operations**

For Startup operations, implement the STARRT card process identified in **Section 3.5 Implement Safety Task Analysis and Risk Reduction Talk**, using UCN-23464.

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### 3.7 Tower Crane Operations

For UPF Tower Crane operations, implement the STARRT card process identified in **Section 3.5**, using CFN-1268, *UPF Tower Crane Operations STARRT Card*.

### 3.8 STARRT Card Review/Feedback

The Responsible Superintendent/STE shall review and address feedback/comments from the applicable crew. All feedback/comments should be addressed in a prompt fashion, and issues that cannot be immediately resolved shall be elevated to the appropriate organization (e.g., ES&H, Quality, Field Engineering, etc.) for further review and resolution. The Responsible Superintendent/STE shall sign all applicable STARRT cards and return to ES&H.

## 4.0 RECORDS

Records generated by this procedure shall be maintained in accordance with Y-15-95-800, *UPF Document Management*. Record types for documents submitted to the UPF DMC are identified in ML-PS-801768-A001, *Uranium Processing Facility Project Master Document Type List*. Quality type is listed as Quality-Lifetime (QA-L), Quality-Nonpermanent (QA-NP), or Non-Quality (Non-QA).

A 10 percent sampling of STARRT cards must be retained for a 90-day period (quarter). Scanned versions are acceptable. This process must continue quarterly until Project close-out. At that time, a 10 percent sampling of all scanned/retained STARRT cards must be retained in accordance with Bechtel Records Information Management Procedure No. 1, and the associated Record Retention Schedule.

Records generated during the performance of this procedure include:

Record or Form Number	Record Title	Record Holder	System/ Location	Document Type	Quality Type
CFN-1016A	<i>UPF Construction Work Package Scope and Approvals</i>	UPF Construction	Shared Drive	N/A	Non-QA
CFN-1021A	<i>Pre/Mid-Job Evaluation and Briefing</i>	UPF Construction	Shared Drive	N/A	Non-QA
CFN-1158	<i>UPF Job Hazard Analysis</i>	UPF DMC	InfoWorks	JHA	QA-L
CFN-1251	<i>UPF Construction Attendance Sheet</i>	UPF DMC	InfoWorks	N/A	QA-L
CFN-1268	<i>UPF Tower Crane Operations STARRT Card</i>	UPF Construction	Shared File	N/A	Non-QA
UCN-23162	<i>Safety Task Analysis Risk Reduction Talk (STARRT) Card</i>	UPF Construction	Shared File	N/A	Non-QA
UCN-23464	<i>UPF Startup STARRT Card</i>	UPF Startup	Shared File	N/A	Non-QA
Q4	<i>Job Hazard Analysis</i>	UPF Startup	InfoWorks	N/A	QA-L

## **5.0 REFERENCES**

### **5.1 Source References**

Bechtel Core Process 2H-H030-00105 (CP-105), *Risk Assessment and Objectives*  
PL-QA-801768-A001, *Bechtel National Incorporated (BNI) Uranium Processing Facility (UPF) Project Quality Assurance Plan (QAP)*  
Y60-95-102PD, *UPF Quality Assurance Program Description*  
Y73-95-804, *UPF Project Industrial Hygiene Exposure Assessment & Surveillance Strategy and Process*

### **5.2 Interfacing References**

COI-CM-801768-A087, *Delegation of Construction Site Manager, 10 CFR 851 Signature Authority for Job Hazard Analysis (JHA)*  
ML-CM-801768-A019, *UPF Construction Hazard Tree*  
ML-PS-801768-A001, *Uranium Processing Facility Project Master Document Type List*  
ML-SU-801768-A001, *UPF Startup Hazard Tree*  
MNL-SU-801768-A001, *UPF Startup Test Program Manual*  
Y15-95-800, *UPF Document Management*  
Y17-95-64-800, *UPF Construction Work Control Program*

## **6.0 SUPPLEMENTAL INFORMATION**

Appendix A, *Acronyms and Definitions*  
Appendix B, *Electronic Process Flow Chart*

## APPENDIX A Acronyms and Definitions

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### Acronyms

<b>CWP</b>	Construction Work Package
<b>DMC</b>	Document Management Center
<b>ES&amp;H</b>	Environment, Safety, and Health
<b>FE</b>	Field Engineer
<b>JCN</b>	JHA Change Notice
<b>JHA</b>	Job Hazard Analysis
<b>Non-QA</b>	Non-Quality
<b>PRMS</b>	Programmatic Requirements Management System
<b>QA-L</b>	Quality-Lifetime
<b>QA-NP</b>	Quality-Nonpermanent
<b>STARRT</b>	Safety Task Analysis and Risk Reduction Talk
<b>STE</b>	Startup Test Engineer
<b>STL</b>	Startup Test Lead
<b>STR</b>	Subcontract Technical Representative
<b>UPF</b>	Uranium Processing Facility
<b>Y-12</b>	Y-12 National Security Complex

### Definitions

<b>Construction/Startup Work</b>	Physical/manual work performed, excluding administrative work activities. Hands-on activities intrusive to a system, structure, component, or equipment (includes testing, troubleshooting, and calibration activities).
<b>Hold Point</b>	A mandatory verification point in the sequence of work.  The hold point may not be passed without being released by the identified person or organization based on confirmation that specified conditions have been met or completed. Hold points are steps in a process that due to safety, technical, or work process importance may need to have additional oversight, verification, or documentation.
<b>JHA Development Team</b>	A team comprised of Supervision, FE or STR (for CWP), ES&H representative, STL and STE (for Startup Test/Operating Instructions), and workers.  The team may also include other technical or subject matter representatives as appropriate for the scope of work. The team identifies hazards and develops appropriate hazard controls/mitigations based on the scope of work and documents in CFN-1158, or on JHA Electronic Application.
<b>Job Hazard Analysis</b>	CFN-1158 or on JHA Electronic Application generated form; A process that identifies key job activities/tasks associated with a definable activity. Examines key job activities/tasks to determine the foreseeable hazards associated with the task (e.g., chemical, biological, physical, workplace), and establishes criteria to eliminate or control the hazards.

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<b>Pre-Job Briefing</b>	<p>CFN-1021A; A meeting to brief personnel involved in the performance of an approved work package.</p> <p>This meeting is held before the initial start of field activities or when new workers are added to the team, and may be repeated if there are significant changes in project conditions or plans. At a minimum, the meeting is to discuss the scope of work, permits required to perform activities, hazards and controls associated with work activity, worker qualifications, Lessons Learned, and special requirements as deemed appropriate by the Responsible Superintendent conducting the meeting. For subcontracted work, this meeting also establishes the personnel responsible for roles identified in the work scope.</p>
<b>Safety Task Analysis and Risk Reduction Talk (STARRT)</b>	<p>An informal process performed at or near the work location that is designed to engage workers and support personnel in reviewing area hazards, ensuring appropriate hazard controls are in place, and focusing workers on the requirements for safe work activity performance.</p> <p>The STARRT card (UCN-23162) or the Startup STARRT card (UCN-23464) are tools used to facilitate this process. Use of the STARRT process shall occur upon arriving at the start of the shift, after breaks or interruptions, prior to interaction with equipment, etc., to ensure hazards are recognized and the controls to eliminate, mitigate, or minimize the hazards are properly communicated and understood.</p>
<b>Walkdown</b>	An activity used to familiarize personnel with the work, its location, hazards, current conditions, and other points important to planning safe performance of the work.
<b>Work Package/ Startup Test Instruction/ Startup Operating Instruction</b>	Document that provides the scope, direction, and design documents to accomplish the activity, including information to meet Project requirements.
<b>Worker Representative(s)</b>	Personnel representing a work group, responsible for input to the work planning process
<b>Workers</b>	Individuals assigned responsibility for performance of the work identified in the work package.

## APPENDIX B Electronic Process Flow Chart

