POSITION SUMMARY

Under general supervision, this position serves as a leadworker assisting the Grain Inspection Supervisor in coordinating the work assignments of inspection staff and LTE samplers assigned to a terminal grain elevator. This includes: assisting in the determination of anticipated work priorities and volume, scheduling staff at a specific work location in the absence of a manager, and reviewing daily time and work records of staff for completeness and accuracy and then submitting the records to management for final approval(s). The position provides procedural and technical counsel and guidance to employees in need. The major component of the individual's daily work is to perform official inspection and/or laboratory duties of grain commodities at the assigned worksite. Official inspection includes knowledge and periodic performance of sampling and weighing grain carriers and conducting stowage exams. Official grades for each lot are established by determining evaluating inspection factors (e.g., test weight per bushel, percent of foreign material, etc.) as identified in FGIS Grain Inspection Manual Book II; results may represent lots of grain varying in size from 600 to 1,000,000 bushels and are used by the grain industry for price establishment for the quality of grain determined in each lot.

20% Goal A: Performance of leadworker responsibilities.

A1. Provide leadership by assisting management staff with the assignment of job duties based upon an evaluation of job priorities and volume. If no manager is on-site, determine daily work priorities and staff assignments, updating management staff appropriately.

A2. Perform random technical reviews of staff work activities and written records when assigned to their work location to assure compliance with State and Federal Grain Inspection Service (FGIS) standards and requirements, giving procedural counsel to employees in need. Note: A visual review of written inspection reports, tickets, logs, and other documents from each worksite is done by the leadworker to assure completeness and accuracy before they are sent to the main office for certification.

A3. Collect daily time records from all staff assigned to the work location, review and verify work hours and assess grain elevator firm charges accordingly. Review and submit records, including time records, to management staff for final approval(s).

A4. Due to the daily fluctuations in volumes of railcars, trucks, and ships to be sampled, inspected and weighed, the Inspector Leadworker must communicate daily with elevator personnel to determine workloads and priorities before he can effectively assist management staff in assigning, requesting, or transferring inspection service staff.

A5. Communicate daily with the appropriate management staff of anticipated workloads, manpower needs or surplus, equipment needs, and personnel and procedural problems, which cannot be solved at the leadworker level. For effective management, keep the supervisor aware of work-site manpower needs.

A6. Train and guide grain technicians assigned to field sampling and sample processing duties, clarifying procedures, duties, and safety hazards learned in classroom instruction to assure accuracy, efficiency and safety of the overall inspection process. Provide continuing technical guidance to inspection staff.

A7 Provide backup duties to the Laboratory Leadworker.

50% **GOAL B: Performance of a variety of sample processing and inspection activities, including the determination and recording of official grade of grain samples from trucks, railcars, barges, storage bins, and ships.** IMPACT: Proper sample pre-inspection processing is essential to achieve accurate grade determination. Sampled lots vary in size from 600 to 60,000 bushels with the value determined by the grade and factors assigned. Proper inspection techniques assures buyers, sellers and handlers of grain of accurate inspection results on grain quality which are often used for price establishment on lots of grain representing large economic worth.

B1. Divide sample into two equal portions using a Boerner mechanical divider. One-half of the sample is maintained in secure storage for reinspection purposes, if requested by industry. The other half of the sample is processed for inspection.

B2. Determine test weight per bushel by scale, dockage (foreign matter content) by running the sample through the dockage separator machine, percent of moisture by Moisture Meter and sizing factors, such as shrunken and broken kernels in wheat and thin and plump in barley, by placing samples on mechanical sieving devices.

B3. Use a Boerner mechanical divider to prepare various sample portion sizes as needed for inspection. This data is then calculated and percents are recorded on an inspection ticket and passed with the sample to a licensed inspector for factor analysis and grade determination.

B4. Check grain processing equipment for cleanliness and accuracy on a periodic basis to assure accuracy of results obtained. Equipment checks made include balancing analytical scales, calibrating moisture machines, and cleaning Boerner dividers and bottom pans as well as sieves used to determine dockage and sieving factors.

B5. Analyze prepared samples for applicable grading factors (e.g., visual and odor, foreign substances such as stones, insects, and rodent excreta) and determine the official grade by using procedures and grading guidelines established and approved by the FGIS to assure the grade determined is accurate and representative of the lot sampled.

B6. Document official grades and factors on truck and railcar inspection tickets and ship inspection logs accurately and legibly. These inspection records are used as the supporting data for the issuance of official inspection certificates. Other information such as stowage compartments, times, names of official inspection personnel, etc., are entered on the log.

10% **GOAL C: Performance of grain sampling and weighing activities of trucks, storage bins, railcars, or river barge, and ship loads of grain moving into national and international trade channels to be utilized for human food or animal food consumption. Samples are forwarded to the state inspection official to determine grade factors (color, odor, protein content, foreign material, test weight, etc.) and establish a final grade for price establishment.**

C1. Obtain, examine, combine, and identify according to FGIS procedures component samples, and sublot samples to assure grain sampled is representative of that being loaded on board water vessels destined for domestic and export markets. Samples are obtained with a mechanical sampler unless a malfunction occurs and then a manual sampling device is temporarily used.

C2. Component samples representing up to 10,000 bushels are taken from each mechanical sampler and examined for heating, odor, insect infestation and other inert or foreign substances such as stones and fertilizer pellets. Component samples are also examined for damage, foreign material, dockage and etc., which helps determine if grain is meeting the prescribed contract order. A minimum of six component samples, each not representing more than 10,000 bushels, are combined for official inspection results and cannot exceed 60,000 bushel sublots.

C3. Individually inspect sublot samples, mathematically calculate results and combine to determine the final grade of the total lot. FGIS regulations require that only a licensed inspector can combine component samples for the purpose of assuring that the grain loaded is uniform in grade.

C4. If a non-uniformity is suspected or determined during sample examination, loading is stopped, the sample is inspected and if a non-uniformity is confirmed, the quantity of grain represented by the sample is certified separately as lower quality grain than the overall lot being loaded.

C5. Obtain representative samples of grains from commercial carriers such as trucks, railcars, and barges following FGIS Manual procedures. Samples are drawn with 5, 6, 8, 10 and 12 foot grain probes or mechanical probes depending on the type and depth of the grain carrier. Samples are taken from the top of the carrier except for end door trailers which require end door entrance. Probing is done outdoors in all seasons. Varying probing procedures are required to produce a representative sample depending on the type of carrier (7 or 9 probes per truck, which must result in approximately 2600 grams of grain; one probe per each compartment in hopper cars, etc.).

C6. Record on the sample ticket, which is placed inside the tied sample bags, carrier identification number, type of carrier, depth of probe, unusual conditions of grain, such as musty, sour, heating, and etc., to assure proper identification and traceback of the sample to the carrier.

C7. Maintain visual observation of the sample until pick-up by appropriate agency personnel takes place to assure against sample switching or sample loss.

C8. Operate the mechanical sampler at railcar and truck dumps where official yard sampling is not required or outbound grain is being loaded. (Set timer, inspect sampler for proper operation, cleanliness, maintain sample identification, etc.)

5% **<u>GOAL D</u>: Performance of export and domestic stowage inspections.**

D1. Inspect stowage compartments of ships, railcars, barges and trucks in accordance with FGIS procedures and standards to assure they are clean, dry and free of injurious insects and objectionable odors and ready to receive grain.

D2. Prepare and submit sanitation certificates and reports notifying proper state and FGIS personnel on a timely basis to assure all interested parties have adequate confirmation of stowage condition to facilitate grain loading process.

D3. Perform related duties as assigned.

15% **<u>GOAL E</u>: Performance of laboratory duties. This includes the determination of the protein content of wheat, the oil and protein content of soybeans and corn, the oil content of sunflower seed, the falling numbers test for wheat baking quality, testing for mycotoxins (fumonisin, zearelanone, aflatoxin and vomitoxin), canola glucosinolates, corn starlink, and other laboratory related tests and duties such as cleaning and equipment maintenance.**

E1. Assemble sample(s) to be analyzed according to elevator, carrier type and type of analysis and record them on proper worksheet.

E2. Determine the protein content of wheat and oil content of soybeans using the Tecatur Whole Grain Analyzer. This includes performing daily calibration checks before performing protein testing.

E3. Determine the oil content of sunflower seed on the Nuclear Magnetic Resonance (NMR) Analyzer by reducing sample to correct size with divider, removing foreign material by hand-picking, drying in the air oven, weighing, analyzing in NMR and then calculating the oil percentage.

E4. Determine the Falling Number baking quality test on wheat by reducing sample to correct size with divider, grinding wheat into flour, stirring and mixing flour placing exactly 7 grams of flour evently into a test tube, add distilled water and shake vigorously, scrape down insides of test tube with viscometer stirrer and then place in waterbath, swing stirring head into place to start automatic process, when process complete record number from automatic counter, remove test tube from waterbath, clean and dry.

E5. Determine the mycotoxin content of wheat, corn and other grains using the FGIS approved methods. Process involves weighing, grinding, blending, mixing with methanol or distilled water and using computer software to determine results.

E6. Using the FGIS approved 00 dip test, grind canola, mix with distilled water, filter sample, and then dip glucose strip into sample after designated time. Read strip by visually comparing color of strip to control.

E7. Communicate test results by completing written results of work records and by verbally or electronically communicating to elevators results of high priority tests. This includes having knowledge of ship loading procedures as pertains to protein, mycotoxins, and falling numbers.

E8. Perform basic calibrating and maintenance of equipment, clean work areas and prepare laboratory supplies as needed.

E9. As needed, enter data into computer software program for retrieval by elevator, state, and FGIS personnel.

E10. Perform other analytical tests as marketing conditions warrant.

KNOWLEDGE & SKILLS REQUIRED

Thorough knowledge of the Federal Grain Inspection and Weighing Standard regulations for sampling (probing), sample processing, weighing, inspecting, stowage and laboratory duties.

Considerable ability to communicate verbally and by writing legibly.

Considerable knowledge of arithmetic.

Extensive knowledge of the equipment used in sampling and its proper operation procedure.

Extensive knowledge of the equipment used in grain flow (moving grain into and out of elevator terminals – Construction, normal physical condition and acceptable variances of equipment in use).

Extensive knowledge of the maintenance and calibration of laboratory equipment.

Extensive knowledge of the various grain carriers (hopper car, barges, trucks, etc.) and the typical areas of malfunction associated with each type.

Thorough knowledge of the common varieties and types of grains and acceptable variations in terms of quality & conditions.

Knowledge of effective record keeping methods.

Ability to effectively manage workload priorities and determine equipment or personnel needs.

Basic knowledge of training methods and techniques.

SPECIAL REQUIREMENTS: (1) Inspectors must be licensed to inspect all types of grain required to perform leadworker duties, perform all required Laboratory tests and weighing upon completion of the probationary period. Licenses must be maintained. (2) Valid driver license required. Proof of personal automobile insurance will also be required in cases where a personal vehicle must be used for official business. Note: mileage compensation is paid to employees approved for use of personal motor vehicle for official work duties.

PERSONAL CONTACTS AND THEIR PURPOSE

The work requires the Inspector Leadworker to have daily verbal communication with the field supervisor for purposes of establishing specific manpower needs and priority of work assignments and for equipment supply requests. Inspector Leadworkers have continuous daily contact with subordinate inspectors, technicians, and LTE samplers for purposes of making job assignments and also exchanging pertinent information in regards to weighing, sampling, and sample processing lab duties. They have daily verbal communications with elevator personnel in regard to information concerning work volume, inspection, weighing and lab priorities and completed inspection results. When performing export stowage exams they have verbal and written communications with grain shipping agents, ship crewmembers, FGIS employees, and the National Cargo Bureau each time a stowage exam is conducted. They also have verbal contact with the Supervisor when subordinates have personnel problems or a procedural item needs clarification.

DISCRETION AND ACCOUNTABILITY

Specific procedure and objectives are outlined in the United States Grain Standards Act and Regulations and Federal Grain Inspection Manuals. Modifications may only be approved by the Field Supervisor, if at all. Priority of work assignments are established by the Inspector Leadworker in conjunction with the field supervisor. Guidelines and work methods may be modified by the designated leadworker with the approval of the field supervisor.

Sample and sample processing results are reviewed on a daily basis by the leadworker and field supervisor and on a random basis by FGIS personnel. The work is checked by visual observation and analysis of work records. Inspection results are reviewed by visual spot checks by leadworker or field supervisor and also by comparing reinspection results performed by other inspectors to original results. The FGIS monitors 3% of each inspector's results by inspecting file samples and comparing results with the original inspection.

Each inspector or coordinated team of employees is/are accountable for the work they do and sign for. The leadworker is accountable for the accuracy & completeness of time records at his assigned worksite.

PHYSICAL DEMANDS & SPECIAL REQUIREMENTS

Sampling work requires lifting, pulling, pushing and climbing.

1. Sample of grain carriers with 5, 6, 8, 10, and 12 foot grain probes weighing up to 15 pounds.
2. Climb into, onto and down from grain carriers, 10 – 15 feet high.
3. Carry 4 – 8 grain sample bags weighing up to 6 pounds each.
4. Pushing probes into grain lots and withdrawal of filled probe.

2 – 2 ½ quarts of sample are obtained from each carrier.

Inspecting grain requires sitting or standing at an inspection table for extended periods of time.

Stowage exam work requires climbing ladders in ship holds 30' – 50'.

Sample preparation work requires lifting of sample bags weighing approximately five pounds shoulder high, divider pans weighing from 2.5 pounds to .5 pound shoulder high, some bending to pick up sample bags or to empty dockage machine pans, and standing in one area.

WORKING ENVIRONMENT

Approximately 0 – 5% of the work time is spent out-of-doors in all seasons of the year. Approximately 95% of the work time is spent in a grain elevator and/or inspection or lab office with varying levels of dust and noise. The work requires that the inspector be safety conscious and mentally alert at all times. Smoking and other potential ignition sources are banned from the elevators for the prevention of fires and dust explosions. Hard hats and dust masks are available for use by the inspectors when overhead hazards or dusty conditions exist. No special equipment is needed when performing official inspection work. Inspectors performing ship stowage exams must board ships and climb into ships stowage holds.