

Maintenance Process: Work Order 101

Terminology

Customer Requests & Work Orders are two sides of the same coin. General campus users enter Customer Requests. They must be reviewed and approved in order to become work orders. Maintenance and Work Control Center staff (and some others) are able to directly enter work orders, bypassing the Customer Request step.

Phases break down the work order into tasks, and each is assigned to a group (known as “shops” in AiM) for completion. All work orders have at least one phase; most have 2-4, but they can have many more depending on the type of work requested.

As an example, if a customer reports a ceiling leak, more than one shop would typically be involved. The Maintenance Zone team for that building would investigate the scope of the work, then typically a phase would be assigned to the plumbing shop to fix the pipes, another phase to Building Services to clean the carpet, and possibly additional phases to carpenter or paint shops if there was wall damage.

Shops can be comprised of University employees or external contractors/vendors. Following are examples of each:

Shops staffed by University Employees

Lock Shop, ND Fire, ND Security Police, ND Telephony, Building Services, Utilities Distribution, Utilities Controls, Maintenance Zone Technicians, Landscape Services

Shops staffed by Non-University employees

The Carpenter, Electric, Elevator, Flooring, Paint, Plumbing, and Tin shops have offices in the Maintenance Center and are staffed by employees of outside contractors/vendors for each specific trade. They have negotiated contracts with the University and perform substantially all the work on campus related to their trade. There are also a number of specialty contractors that are set up as Shops in AiM, and they are mainly used for projects or special situations.

Initiation of a Work Order and Viewing the Work Order in AiM

Campus customer submits a customer request (six digit number) or phones the Work Control Center (1-8888), who then enter the request.

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Customer Request		View: Select
Transaction	286985	Created By: SADKINSO Date Created: Mar 26, 2015 01:31 PM
Request Details		Work Order
Problem Code	<u>OTHER</u>	Desired Date: Mar 26, 2015
Description	ACTIVE CEILING LEAK IN 115. TILES ARE STAINED. THIS WAS SUBMITTED PREVIOUSLY BUT WEATHER CONDITIONS DID NOT PERMIT ROOF INSPECTION. FLAT ROOF MEMBRANE BELIEVED TO BE ABOVE THE AREA.	Activity Code: Work Order: <u>1535391</u> ACTIVE CEILING LEAK IN 115. Work Order Status: 10-OPEN
Requestor	Accounts	Location
Organization: <u>50000</u> BUILDING MANAGERS	Account: <u>BUILDING</u>	Region: <u>UND</u> UND
Requestor: <u>SHEILA ADKINSON</u> SHEILA ADKINSON	Subcode: <u>NA-1</u> NA-1	Facility: <u>ON CAMPUS</u> ON CAMPUS
Contact: <u>SHEILA ADKINSON</u>		Property: <u>1144</u> DEBARTOLO HALL
Contact Phone: 631-8773		Location: <u>115</u>
Contact Email: <u>SADKINSO@ND.EDU</u>		

The Customer Request is checked to ensure the work order will be properly routed and billed based upon the description of the work. Approval typically takes 30 seconds to 30 minutes.

For the request above, you can see who created the request, the date/time created, description of the problem, and the account intended to be charged. In this case, the customer has indicated the building account should be charged. See the Categories of Work and Responsibility for Cost chart for types of charges which require departmental vs central funding.

When the work order is created from the customer request, the first phase is automatically routed to the appropriate shop based on the problem code. Here is our current list of problem codes and the default shops:

Problem Code	Shop
AUTOCAD	AUTOCAD (internal use only, for updates to floor plans)
TOO HOT/ COLD	CONTROLS (temperature issues)
CUST	CUST SPECIAL (Building Services)
DELIVERY/MOVE	GEN SERVICES (General Services – delivery, move, set up furniture)
CARD ACCESS	LOCK (internal use only, for requests emailed to Andy Tripp)
LOCK- KEYS	LOCK (Lock shop, key or re-core requests)
LOCK- OTHER	LOCK (door hardware)
IT SERVICES	OIT (cable, cell phones, internet, campus phone)
OTHER	Maintenance Zone Supervisors (maintenance to correct a problem)
RENOVATION	Maintenance Zone Supervisors (changes not due to a problem – preference)
Safety	Maintenance Zone Supervisors (maintenance due to Risk Management inspection)

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The following work order example has 5 phases, each assigned to a different shop. The first shop is typically the Maintenance Zone Supervisor, who evaluates the scope of the problem and then assigns other shops as necessary. If the shop assigned is a contractor (non-university employee), the Maintenance Zone Supervisor puts an estimate in the budget field, which results in an encumbrance against the assigned FOAP. As the shop technicians finish with their part of the work, they will change the phase status to indicate work complete. The work order itself closes after all the phases are closed.

Work Order		View: Select					
Work Order	1535391	Created By	PGORDON	Status	<u>10-OPEN</u>		
		Date Created	Mar 26, 2015 01:37 PM	Project			
Description	ACTIVE CEILING LEAK IN 115. TILES ARE STAINED. THIS WAS SUBMITTED PREVIOUSLY BUT WEATHER CONDITIONS DID NOT PERMIT ROOF INSPECTION. FLAT ROOF MEMBRANE BELIEVED TO BE ABOVE THE AREA.			Desired Date	Mar 26, 2015		
				Budget	\$0.00		
Organization		Property		Classification			
Organization	50000	Region	UND	Problem Code	OTHER		
	BUILDING MANAGERS		UND	Type	M MAINTENANCE		
Requestor	SHEILA ADKINSON	Facility	ON CAMPUS	Category	COR CORRECTIVE MAINTENANCE		
	SHEILA ADKINSON		ON CAMPUS	Job Priority			
Contact	SHEILA ADKINSON	Property	1144				
Contact Phone	631-8773		DEBARTOLO HALL				
Contact Email	SADKINSON@ND.EDU						
Phase							
Phase	Description	Location	Shop	Work Code	Priority	Status	
001	ACTIVE CEILING LEAK IN 115. TILES ARE STAINED. THIS WAS SUBMITTED PREVIOUSLY BUT WEATHER CONDITIONS DID NOT PERMIT ROOF INSPECTION. FLAT ROOF MEMBRANE BELIEVED TO BE ABOVE THE AREA.	115	DOUG MILLER	ROOF MEMBRANE	RT	92-NOCHG	
002	ACTIVE CEILING LEAK IN 115. TILES ARE STAINED. THIS WAS SUBMITTED PREVIOUSLY BUT WEATHER CONDITIONS DID NOT PERMIT ROOF INSPECTION. FLAT ROOF MEMBRANE BELIEVED TO BE ABOVE THE AREA.	115	TIN	ROOF MEMBRANE	RT	99-CLOSED	
003	ACTIVE CEILING LEAK IN 115. TILES ARE STAINED. THIS WAS SUBMITTED PREVIOUSLY BUT WEATHER CONDITIONS DID NOT PERMIT ROOF INSPECTION. FLAT ROOF MEMBRANE BELIEVED TO BE ABOVE THE AREA. ROOFERS DISCOVERED LEAKING WATER PIPE.	115	PLUMBING	PLMB COLD PIPE & VALVES	UR	99-CLOSED	
004	INSTALL ACCESS PANEL FOR PLUMBERS	115	CARPENTER	CARP- WALLS/CEILINGS	UR	99-CLOSED	
005	PAINT ACCESS PANEL TO MATCH WALL.	115	PAINT	FINISHES- PAINT	RT	80-WRKCOMP	

The Phase Status is used to show job progress. Here are a few pertinent ones:

10 = brand new phase	80 = ready to bill
20 = assigned to technician; if there is an amount in the phase budget field, it will encumber on the next interface run - 7 th , 14 th , 21 st , or 28 th of the mo - in the FOAP used in the phase	92 = phase closed, no charges associated with work performed
40 = waiting for materials	95 = charges go to Accounts Payable on the next interface run - 7 th , 14 th , 21 st , or 28 th of the mo
75 = work complete, not billed	99 = encumbrance taken down, actual costs charged, phase closed

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Customer Email Notifications

There are three points at which customers receive automatically generated emails: when the customer request is given a work order number, when the phase of a work order is complete, and when the work order is closed (all phases of the work order must be closed first).

The email goes to the address in the Contact Email field, which can be changed from the default address that is tied to your log in. In the example below, the person who put in the request has changed the default values for contact/contact phone/contact email.



The screenshot shows a 'Customer Request' form with the following data:

Transaction		Created By		Status
293031		MPROROK		APPROVED
		Date Created	Jun 01, 2015 10:58 AM	

Request Details		Work Order	
Problem Code	OTHER	Desired Date	Jun 05, 2015
Description	HANDLE TO A CABINET BENEATH THE HOOD IN CAMDEN WET LAB. 354 NIEUWLAND, HAS BROKEN OFF AND CABINET CANNOT BE OPENED. HOBIE TURLEY IN CAMDEN LAB HAS THE HANDLE--JUST NEEDS TO BE REATTACHED.	Activity Code	
		Work Order	1544206
		Work Order Status	10.OPEN

Requestor	Accounts	Location
Organization	Account	Region
35030	BUILDING	UND
CHEMISTRY AND BIOCHEMISTRY		UND
Requestor		Facility
MARY FRANCES PROROK		ON CAMPUS
MARY FRANCES PROROK		ON CAMPUS
Contact	Subcode	Property
HOBIE TURLEY	NA-1	1050
Contact Phone		NIEUWLAND SCIENCE HALL
631-0978	NA-1	
Contact Email		Location
Hubert.K.Turley.15@ntledu		354

Cost Approval Process

Contractors generally submit their charges through the AiM system for processing and approval, rather than submitting check requisitions and invoices to Accounts Payable for payment. A University-provided spreadsheet is used to submit line item charges for labor, materials, and equipment for each phase of a work order. All charges must conform to University standards regarding the level of detail provided for each line item submitted, and each line item is reviewed for compliance prior to upload into AiM.

Once uploaded into AiM, costs are reviewed and approved based on role-based thresholds. In general, Zone Supervisors review and approve job costs for any work performed in buildings assigned to their zone. They would have the highest level of knowledge regarding the work performed and the contractor performing the work. If there are questions/concerns about the job costs, Zone Supervisors work directly with contractors to resolve any issues. For those

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phases with costs exceeding \$2500, the phase gets a second level of review and approval. Once approvals are complete, the status on a phase is set so the interface will send costs to Banner.

Flow of Transactions from AiM to Banner/GLez

Both encumbrances and invoices flow from AiM to Banner via an interface. The interface runs four times a month, regardless of the day of the week: the 7th, 14th, 21st, and 28th. The interface looks for phases set to either status 20 or 95 to upload information into Banner. At status 20, the interface will encumber the amount in the phase budget field to the FOAP in the account set up field. At status 95, the interface will take down the encumbrance and create an invoice for the contractor to be paid or a journal entry charge for supplies used from inventory.

Accounts Payable takes the invoice file produced by the interface and pays the contractors. If a contractor's charges on a phase exceed \$7,500, the Controller's Office requests and receives information from the Work Control Center regarding who ultimately approved the item for payment.

A link ([view](#)) is provided in GLez to provide a cost detail report supporting each invoice. Clicking on the link opens up a Phase Transaction Detail Report, identifying the specific line item costs for each cost category (Labor, Materials, Equipment, Contract). The Invoice Code represents the work order number from AiM. See the document *Converting Banner transactions to corresponding AiM work order phases* for information on how to convert Banner reference numbers for journal entries and encumbrances to AiM work order numbers.